California High-Speed Train Project

Request for Proposal for Design-Build Services

RFP No.: HSR 11-16
Geotechnical Data Report
HYBRID Alternative
Ave 17 to Veterans Blvd
Part 1 of 2

Prepared for
CALIFORNIA High-Speed Rail Authority

CALIFORNIA HIGH-SPEED TRAIN

Engineering Reports

Record Set
15% Design Submittal

Merced to Fresno Section

Geotechnical Report
BNSF Alternative
Including Ave. 21 & Ave. 24

May 2011



CALIFORNIA
High-Speed Rail Authority

U.S. Department of Transportation
Federal Railroad Administration

PRELIMINARY GEOTECHNICAL REPORT

A1-BNSF ALIGNMENT

CALIFORNIA HIGH-SPEED TRAIN PROJECT
(MERCED - FRESNO SECTION)

MERCED-MADERA-FRESNO, CALIFORNIA



For

AECOM TRANSPORTATION
2020 L Street, Suite 300
Sacramento CA, 95811

PARIKH CONSULTANTS, INC.
2360 Qume Drive, Suite A, San Jose, CA 95131
(408) 452-9000

December 15, 2010

Job No. 209138.BSF

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PRELIMINARY GEOTECHNICAL REPORT
A1-BNSF ALIGNMENT
CALIFORNIA HIGH-SPEED TRAIN PROJECT
(MERCED - FRESNO SECTION)
MERCED-MADERA-FRESNO, CALIFORNIA

1.0 INTRODUCTION

This report presents the results of our preliminary analyses of geotechnical data along the alternate alignment: A1-BNSF and Wye Connections to San Jose: Ave 24 and Ave 21 in the Merced – Fresno Section of the California High-Speed Train Project located mainly along existing BNSF railroad in the counties of Merced and Madera in the southeastern portion of the Central Valley of California as indicated on Project Location Map, Plate 1.

Based on the information published on the official website of The California High-Speed Rail Authority (Authority) (http://www.cahighspeedrail.ca.gov/), the Authority is proposing an 800 mile-long high-speed train system that would connect the San Francisco Bay Area and Sacramento in the north, through the Central Valley to Los Angeles, Orange County and San Diego in the southern part of California. This high-speed rail system is forecast to carry 93 million passengers annually by the year 2030. Comprehensive program-level environmental studies to determine overall route and station locations were completed in 2005 and 2008. The November 2008 California voter approval of $9.95 billion in bonds helped to move the program forward and project-specific environmental studies are now underway.

The Merced to Fresno Section of the High-Speed Train (HST) system is approximately 60 miles long and includes the junction that will permit high-speed trains to be routed to either Sacramento or San Francisco in the north. Proposed route alternatives generally follow the Burlington Northern Santa Fe (BNSF), the Union Pacific (UP) railroads, or a new alignment a few miles west of SR 99 throughout the section. HST stations are proposed in downtown Merced and Fresno. A heavy maintenance and repair facility will be evaluated in the Merced to Fresno HST project area. Based on the Preliminary Alternative Analysis Report, the Authority board meeting in April 2010 had narrowed the possible routes through Merced and Madera counties that the Authority will continue to study. Those two routes are A1-BNSF, which would run to the east of Highway 99 south of Merced along the BNSF Railway; and A2-UPRR/SR99, which would run south near Highway 99 along the Union Pacific line.

PARIKH Consultants, Inc. previously performed a study of the alignment along UPRR/SR99. The Preliminary Geotechnical Report was issued on June 1, 2010. The study for this report has focused mainly on the A1-BNSF alignment and Wye Connections to San Jose: Ave 24 and Ave 21, as shown in the Project Location Map (Plate 1). The main purpose of this study has been to investigate the general geologic setting in the project area and general soil conditions along the A1-BNSF alignment through literature review and using readily available soil and groundwater data. Due to the very limited readily available geotechnical information, the assessment included in this report is preliminary and is not intended for use in design of project elements. It should only be used to identify and resolve geotechnical-related preliminary estimation and cost issues.

2.0 REVIEW OF EXISTING DATA

The subsurface conditions along the proposed A1-BNSF alignment were evaluated by reviewing readily available existing subsurface data. Since the A1-BNSF alignment traverses through some rural and agricultural areas with no major highway near the proposed track, data collection has been difficult. Numerous efforts had been made to collect as much related data as possible. A variety of published and unpublished references related to geotechnical, geologic, and seismic conditions along the alignment were collected and reviewed. Subsoil information was collected mainly from the following seven (7) sources:

1. Logs of Test Borings (LOTBs) in Caltrans As-Built plans for existing bridges along SR 99;
2. As-Built plans of Logs of Test Borings (LOTBs) of existing county bridges from Merced and Madera county officials.
3. LOTBs from Geotracker (http://geotracker.swrcb.ca.gov/). Geotracker is a database and geographic information system (GIS) that provides online access to underground storage tank leak case data.
4. Geotracker reports copied from Madera County Environmental Health Department.
5. Geotracker reports copied from Central Valley RWQCB (REGION 5F).
6. Geotracker reports copied from Merced County Department of Public Health Division of Environmental Health.
7. Several geotechnical investigations conducted by Parikh Consultants, Inc. for projects located in the immediate vicinity of the A1-BNSF alignment and Wye Connections to San Jose: Ave 24 and Ave 21.

For all projects referenced, the approximate project locations are shown in the Site Plan and Geologic Map (Plate 2). The projects are referenced from Merced County moving south to Madera County. Details of the subsurface conditions encountered at each boring location are presented in Appendix A. Where appropriate, data from these explorations have been used to evaluate the subsurface conditions along the alignment and provide preliminary geotechnical engineering recommendations.

3.0 GEOLOGIC SETTING

3.1 Regional Geology and Soils

The Project Site is located in the southeastern portion of the Great Valley geomorphic province, a relatively flat alluvial plain composed of a deep sequence of sediments in a wide bedrock trough. The Great Valley is bounded on the west by the South Coast Ranges and on the east by the Sierra Nevada Mountains. Erosion of the South Coast Ranges and the Sierras has produced the sediments deposited in the Great Valley. Deposition in the valley was mainly marine until the beginning of the Pliocene epoch (approximately 5.3 million years ago) when the Valley's seas retreated beyond the Carquinez Strait and were replaced by freshwater rivers and lakes. Today, the valley is drained by the Sacramento River from the north and the San Joaquin River from the south. Geographically and topographically, the valley has been shaped by the Sacramento and San Joaquin Rivers and their tributaries. The rivers meet approximately 35 miles south of Sacramento and discharge through the Sacramento–San Joaquin Delta into San Francisco Bay and the Pacific Ocean.

A series of predominately non-marine Tertiary clastic deposits rest upon granite and metamorphic basement along the eastern margin of the San Joaquin Valley and Cretaceous marine sedimentary rocks at depth beneath the valley. Bedding within these sediments generally dip gently southwestward beneath the alluvial deposits which cover most of the valley floor.

The North Merced sediment is an erosional surface of low relief that cuts across a variety of rock types with regional extent and is covered by a thin (usually less than 2 meters thick) deposit of coarse locally derived gravel (North Merced Gravel) that appears to have been deposited in a semiarid climate similar to that of the present. Subsequently, younger deposits were laid down on topography that had been deeply incised into the North Merced surface.

Soil development in these well-drained relatively uneroded arkosic parent materials of similar grain size distribution shows several trends with increasing age: (1) increased thickness of horizons and depth to fresh parent material, (2) redder hues, (3) brighter chromas, (4) lower pH, (5) sharper definition of horizon boundaries and more horizons, and (6) sequential development of Cox, AC, cambric B, weak argilitic horizons and finally, a very strong argilitic horizon.

3.2 Local Geology and Soils

General geologic features pertaining to the site were evaluated by reference to the Generalized Geologic Map of the Merced-Madera Area, Northeastern San Joaquin Valley, California in Late Cenozoic Stratigraphic Units, Northeastern San Joaquin Valley, California; U.S. by Marchand, D.E.; and Allwardt, A.; 1981; Geological Survey Bulletin 1470. (Refer to Plates 2-0 through 2-9.)

In general, the mapped geologic units within the project corridor include (from oldest to youngest) the Turlock Lake, Riverbank, and Modesto Formations and post-Modesto Deposits.

The Turlock Lake, Riverbank, and Modesto Formations are all Pleistocene in age and comprise the major near-subsurface and surface stratigraphic and lithologic units in the project area. These formations are similar to one another in four respects: (1) the arkosic nature of their sand and silt fraction, (2) a tendency toward upward coarsening sedimentation cycles, (3) deposition as sequential overlapping alluvial terrace and fan systems, and (4) probable glacial origin (from the Sierra Nevada Mountains to the east) of much of the sediment. However, these formations may be distinguished from each other on the basis of soil profile development, topographic position and expression, local lithologic differences, and unconformities associated with buried soils. These stratigraphic units represent separate alluvial episodes, recorded by fill terraces opening westward onto alluvial fans. Substantial time intervals between periods of aggradation are represented by buried paleosols.

Deposits younger than the Turlock Lake Formation occur as a series of nested terraces incised into older deposits near the Sierra Nevada foothills and opening westward onto alluvial fans. Each alluvial fan commonly spills out west of and over the next oldest fan, such that the youngest fans are found close to the San Joaquin River and the oldest fans have their heads near the foothills to the east. Toward the basin, depositional surfaces converge so that soils and superposition of deposits separated by buried soils are the primary distinguishing criteria. However, lateral and

vertical lithologic variations within a single unit are frequently more pronounced than differences between units.

These formations differ in age, topographic expression, geomorphic position, post-depositional soil development, and geographic occurrence. Some minor lithological differences in present surface exposures are apparent although not necessarily significant: well-stratified silt and fine sand seem to be more commonly exposed in both units of the Turlock Lake Formation and the Modesto Formation than in the three units of the Riverbank Formation; gravel tends to be common in both members of the Modesto Formation and in the upper part of the lower Turlock Lake but less abundant in the upper unit of the Turlock Lake and in the Riverbank. The gravel in the upper member of the Modesto is confined to relatively narrow channels and may reflect reworking of coarse fragments from older deposits.

Following are generalized descriptions of the four geologic formations (from the oldest to the youngest) that are exposed within the project area. Refer to Plates 2-0 through 2-9 for the mapped extent of each unit within the project area.

Turlock Lake Formation: The Turlock Lake Formation overlies the North Merced Gravel Formation and forms extensive subsurface deposits throughout the San Joaquin Valley. It is the oldest unit exposed in the project area.

The Turlock Formation consists primarily of arkosic alluvium, mostly fine sand, silt, and in places clay at the base grading upward into coarse sand and occasional coarse pebbly sand or gravel. The pebbles are of granitic as well as metamorphic, volcanic, and quartz-vein rocks and are in most places neither as large nor as abundant as those in the underlying older units. The gravel and sand beds are typically massive, lenticular, cross-bedded, and difficult to trace laterally. The beds of finer grained sediment are commonly well-sorted, well stratified, and internally laminated. In many places, the beds contain virtually unweathered grains of micas, feldspars, and mafic minerals. The Turlock Lake Formation slopes westward beneath the overlying younger alluvial deposits at a very gentle gradient of about 3 meters per kilometer. Its thickness varies from 50 to 230 meters in the Chowchilla area, thickening toward the west.

The Turlock Lake Formation was deposited between 1,000,000 and 600,000 years before present.

Riverbank Formation: The Riverbank Formation underlies the Modesto Formation and is composed of heterogeneous sediments that are poorly sorted with a variety of mineralogies. It consists primarily of sand that contains some scattered pebbles, gravel lenses, and some interbedded fine sand and silt.

The Riverbank Formation consists primarily of arkosic sediment derived mainly from weathering and erosion of the interior of the Sierra Nevada granite batholith. Its terraces and fans truncate or cut into Turlock Lake alluvium or fill in post-Turlock Lake gullies and ravines. They slope gently toward the west beneath fan deposits of early Modesto age.

The Riverbank Formation is similar to the overlying Modesto Formation in its distinguishable features; however, it is more massively bedded with a few gradational bedding planes.

The Riverbank Formation was deposited between about 450,000 and 130,000 years before present.

Modesto Formation: The Modesto Formation and the associated post-depositional alluvium comprise the youngest unit of the alluvial fans that blanket much of the project area. These deposits cover a large part of the central San Joaquin Valley, and include fan, axial basin, and river channel deposits. In the project area, Modesto Formation sediments are generally a 10 to 30 feet thick veneer that shows little if any erosional modification. The Modesto Formation is a heterogeneous unit comprised of a wide spectrum of mineralogies, principally of granitic and metamorphic origins but include some volcanics. The Modesto Formation is typically massive, without any distinguishable gradational bedding planes.

The Modesto Formation was deposited between 100,000 and 9,000 years before the present.

Post-Modesto Deposits: Holocene deposits that have been deposited upon the Modesto Formation in the northeastern San Joaquin Valley are located close to modern drainage ways. Most small foothill streams have not built post-Modesto fans. In general, post-Modesto deposits are relatively thin and essentially unweathered.

Post-Modesto deposits were laid down within the past 8,000 years

Weathering has produced soils on the geologic units described above. Detailed soil survey mapping has been completed over the entire project area. Soils units mapped within the southern portion of the project area (not covered by the USGS geologic map in Bulletin 1470) include the sandy loams and loams of the Delhi, Exeter, Hanford, Hesperia, and San Joaquin Series. Refer to Plates 2-0 through 2-9.

3.3 Regional Seismicity

The proposed corridor is located within the Great Valley seismo-tectonic province, a region of relative seismic quiescence and tectonic inactivity. This is bounded to the west by the seismically-active central Coast Ranges. The Coast Ranges are traversed by faults of the San Andreas Fault system, including the San Andreas Fault itself, as well as several other active faults. Those faults accommodate the movement between the Pacific and North American tectonic plates, which has been the source of a number of large, damaging earthquakes during historic time.

The Fault Map (Plate 3) shows the approximate position of the major fault zones, and the location of the Project Site in relation to them. The following table (Summary of Major Faults Affecting the Project Site) contains the estimated parameters for earthquakes on several known faults affecting the vicinity.

Summary of Major Faults Affecting the Project Site

Fault Name	Fault ID	Type	Mmax	Approximate Distance *KM / mile*
San Andreas Fault Zone	310, 311, 312	RLSS	7.9	113.2 / 70.3
Calaveras fault zone (Paicines Fault)	324	RLSS	7.4	104.0 / 64.5
Calaveras fault zone (Southern Calaveras section)	323	RLSS	7.4	110.5 / 68.6
Sargent Fault (Southeastern section)	405	RLSS	6.8	120.3 / 74.8
Quien Sabe Fault zone	149	RLSS	6.4	104.2 / 64.7
Ortigalita Fault	386, 387, 388, 389	RLSS	7.1	78.5 / 48.8
Owens Valley Fault	392, 391	RLSS	7.6	156.6 / 97.3

3.4 Regional Significant Active Faults

The active or potentially active faults of most significance to the project are the San Andreas Fault Zone and Ortigalita Fault. Earthquakes originating on both of these faults have caused severe ground shaking at the site in the past and have the potential to do so in the future.

San Andreas Fault: The alignment is located approximately 70.3 miles (113.2 KM) northeast of the San Andreas Fault. This fault is the largest active fault in California and extends from the Gulf of California to Cape Mendocino in Northern California. The 1906 San Francisco Earthquake originated along the San Andreas Fault and had a magnitude of Mw 7.9. The United States Geological Survey's Working Group (WGCEP, 2003) have estimated the probability of at least one earthquake with magnitude greater or equal to 6.7, occurring along San Andreas Fault before 2031, to be 21%.

Ortigalita Fault: The Ortigalita fault is a 48.8 miles (78.5 KM) long, north-northwest-striking, right-lateral strike-slip fault located in the southern Diablo Range, 36.1 miles (57.8 KM) southwest of the project site. The surface trace of the Ortigalita fault extends from Panoche to southeast of Mount Stakes. The fault consists of two distinct geometric segments, separated by a 3.1-mile (5 KM) wide right-step across San Luis Reservoir. Much of the fault is delineated by persistent micro-seismicity; the fault is marked by numerous indicators of recent strike-slip faulting, such as deflected drainages, shutter ridges, side-hill benches, and vegetation lineaments. The Maximum Credible Earthquake (MCE) for the Ortigalita fault is Mw 6.9, with an effective recurrence of 1100 years.

4.0 SITE CONDITIONS

4.1 General Surface Conditions

The Great Valley province comprises a large, elongated, north-trending valley situated between the Coast Ranges on the west and the Sierra Nevada on the east. Much of the Great Valley is at elevations near sea level. Although most of the valley is rural, it does contain urban cities such as Fresno, Madera and Merced along the alignment.

The project site is generally between 170 and 300 feet above mean sea level, with rolling terrain of varying grades with occasional exposures of non-marine sediments. Based on the published information (http://en.wikipedia.org/wiki/), along the project alignment from south to north, the average elevations are approximately 296 feet (90 M) at Fresno area, 271 feet (83 M) at Madera area, 253 feet (77M) in Le Grand area, 226 feet (69M) in Planada area and 171 feet (52 M) in Merced area.

4.2 Surface-Water Hydrology

The San Joaquin River receives water from tributaries draining the Sierra Nevada and Coast Ranges, and except for streams discharging directly to the Sacramento–San Joaquin Delta, is the only surface-water outlet from the project area. The other main waterways within the project area are the Chowchilla River and the Fresno River. The surface-water distribution systems within the project area also include numerous creeks, canals and laterals.

4.3 Subsurface Conditions

A variety of published and unpublished references related to subsurface conditions along the alignment were reviewed. Soils throughout the project corridor are predominately alluvial soils. Alluvial sediments consist of layers of silty sand, clayey sand, and sandy silt; underlain by poorly graded sand (generally derived from erosion of decomposed granite) and sandy silt.

4.3.1 General Discussions

The project is located in the southeastern part of the San Joaquin Valley. Alluvial, Pleistocene non-marine, and other non-marine deposits of the eastern part of the valley were derived primarily from the weathering and glacial erosion of granitic intrusive rocks of the Sierra Nevada, with lesser contributions from the sedimentary and metasedimentary rocks of the foothills. In the eastern part of the valley, sediments derived primarily from the Sierra Nevada are highly permeable, medium-to coarse-grained sands with low total organic carbon, forming broad alluvial fans where the streams enter the valley. These deposits generally are coarsest near the upper parts of the alluvial fans and finest near the valley trough. Dune sand consists of well-sorted medium-to-fine sand, as much as 140 feet thick.

Stream-channel deposits of coarse sand occur along the San Joaquin River and its major east side tributaries. In the valley trough, the stream-channel deposits are flanked by basin deposits of varying extent. The basin deposits are interbedded lacustrine, marsh, overbank, and stream-channel sediments deposited by the numerous sloughs and meanders of the major rivers. The soils that have developed on these deposits generally have a high clay content and low permeability.

4.3.2 Generalized Subsurface Conditions

Based on the similarity of subsurface conditions, the proposed A1-BNSF alignment can be divided into five (5) sections for preliminary estimation and geotechnical engineering discussions. These sections are: Merced Area, Merced to Le Grand, Le Grand to Madera, Ave 24 and Ave 21 Wye Connections and South of Madera. Generalized subsurface conditions for each section of the alignment are summarized in the following paragraphs. Individual soil boring logs at each referenced project site are presented in the Appendix. Approximate locations of projects referenced are indicated on the Site Plan and Geologic Map (Plates 2-0 through 2-9).

Section 1 - Merced Area
Site Plan and Geologic Map (Plate 2-1)
List of Referenced Projects (No.1 through No.20)

Geotechnical data of 20 projects in this area was reviewed to study its subsurface conditions. In general, the subsurface conditions in this section are suitable for the proposed construction. The subsoils mainly consist of stiff to hard silts and clays in the upper 20 feet underlain by very stiff to hard clays, silts and medium dense to very dense sands. Groundwater tables at referenced project sites are generally shallow (5 to 8 feet below the existing ground surface).

As an exception, at the project site: BNSF Railroad Underpass at G Street (Parikh 207101.BCK), loose sand and soft clay were encountered in the upper 10 feet underlain by interbedded layers of stiff to hard silt and clay and medium dense to very dense sand to a depth of 102 feet. It is an indication that unsuitable materials, such as soft clays, could be present at shallow depths at some isolated locations in this area. Some soil improvement measures, such as overexcavation and replacement may be needed during the track construction.

Generalized subsurface conditions for most relevant projects with deep borings are summarized in the following table. Individual soil boring logs with more detailed information are presented in the Appendix.

Generalized Subsurface Conditions – Merced Area

Project ID	Source	Generalized Subsurface Conditions	Groundwater Table Depth (ft)
T0604700137	Geotracker	Medium dense to dense sand or silt in the upper 45 feet, with interbedded layers of stiff to hard clay.	35
T0604700080	Geotracker	Interbedded layers of stiff to hard clay and silt in the upper 25 feet.	Not indicated
T0604700090	Geotracker	Hard clay (fill) in the upper 5 feet underlain by interbedded layers of dense to very dense sand or clayey/silty sands and hard clay to a depth of 56.5 feet.	36
T0604728432	Geotracker	The upper 40 feet soils are variable at this site. Silty clay with unknown consistency was encountered in most locations in the upper 5 feet underlain by interbedded layers of medium dense to dense silty sand or very stiff silts or clays.	Not indicated
BR39-0142R/L	Caltrans Bridge	Very stiff to hard silts and clays in the upper 50 feet with interbedded layers of medium dense to very dense sands.	7~8
BR39-0139R/L	Caltrans Bridge	Very hard silt in the upper 5 to 8 feet underlain by very stiff to hard silt and medium dense to dense sand to a depth of 65 feet.	5~7
BR39-0141R/L	Caltrans Bridge	Very dense silty sand in the upper 5 feet underlain by medium dense to very dense sand/silty sand to a depth of 38 feet followed by very hard silt to the depth of 45 feet.	5
BR39-0140R/L	Caltrans Bridge	Stiff to hard silt in the upper 10 to 18 feet underlain by dense sand to a depth of 35 feet followed by very hard clay and silt to a depth of 46 feet.	6
BR39-0143R/L	Caltrans Bridge	Very stiff to hard silt and medium dense to dense sand in the upper 26 feet underlain by hard silt interbedded with very dense sand to the depth of 40 feet.	5
BNSF Railroad Underpass at G Street	Parikh 207101.BCK	Loose sand and soft clay in the upper 10 feet underlain by interbedded layers of stiff to hard silt and clay and medium dense to very dense sand to a depth of 102 feet.	26.5 ~ 38

Section 2 - Merced to Le Grand

Site Plan and Geologic Map (Plate 2-1 through 2-3)
List of Referenced Projects (No.21 through No.34)

Geotechnical data of 14 projects in this area was collected and reviewed to study the subsurface conditions. In general, the subsurface conditions in this section of the alignment are suitable for the

proposed construction. The subsoils mainly consist of medium dense to very dense sands, silts and stiff to hard clays in the upper 70 to 100 feet with interbedded layers of soft clays or loose sands in some locations. Groundwater tables at most of the referenced project sites are between 5 and 15 feet below the existing ground surface.

In borings drilled at Le Grand Union High School (Geotracker T0604700184), medium dense silty sand with pebbles were encountered in the upper 7 to 10 feet underlain by dense to very dense gravels/cobbles to depths of 20 to 25 feet. In borings drilled at the Thurman Distributors site (Geotracker T0604700198), gravels up to 1-inch were also encountered in the upper 15 to 20 feet. It was indicated in the boring logs that some of these gravels may be fill materials. Thick layers of dense to very dense gravels/cobbles may pose very difficult driving conditions for concrete or steel pipe piles. Steel H piles or CIDH piles may be needed for structures to be built with similar subsurface conditions in the vicinity of these sites.

Another exception is the project site at Wallace Transport, Inc. (Geotracker T0604765838) where soft clay was encountered in the upper 4.5 to 9 feet underlain by medium dense to very dense sand or silty sand to a depth of 34 feet. It is an indication that unsuitable materials, such as soft clays, could be present at shallow depths at some isolated locations in this area. Some soil improvement measures, such as overexcavation and replacement may be needed during the track construction.

Generalized subsurface conditions for most relevant projects with deep borings are summarized in the following table. Individual soil boring logs with more detailed information are presented in the Appendix.

Generalized Subsurface Conditions – Merced to Le Grand

Project ID	Source	Generalized Subsurface Conditions	Groundwater Table Depth (ft)
BR39-229R/L	Caltrans Bridge	The subsoils consist of predominantly stiff to very stiff silts and clays and medium dense sands in the upper 100 feet.	Not Indicated
BR39-0057	Caltrans Bridge	Medium dense to dense silty/clayey sands in the upper 24 feet underlain by dense to very dense sand to a depth of 33 feet. A layer of 5 feet thick loose silty sand was then encountered followed by hard clays and silts to the depth of 60 feet.	18~20
BR39-0007R/L	Caltrans Bridge	Stiff clays in the upper 15 feet underlain by medium dense silty sands and very stiff sandy silts to a depth of 55 feet. Stiff to very stiff clays were then encountered to a depth of 72 feet, underlain by medium dense sands to a depth of 90 feet, followed by dense sands to the depth of 100 feet.	7
BR39-0006R/L	Caltrans Bridge	Very loose to loose sands to depths of 10 to 15 feet underlain by soft to very stiff clays and with occasional medium dense sand layers to the depth of 45 feet. A layer of 5 feet thick very dense sand and gravel was then encountered underlain by hard clays and silts to a depth of approximately 70 feet.	10
T0604765838	Geotracker Wallace Transport, Inc.	Soft clay or sandy clay in the upper 4.5 to 9 feet underlain by medium dense to very dense sand, silty sand to a depth of 34 feet.	15.8
T0604734463	Geotracker	Interbedded layers of clays and sandy silts in the upper 15 feet; soil consistency was not indicated in the boring logs.	Not indicated
Cunningham Road Bridge	Merced County Bridge	Compact silty sand in the upper 3 feet underlain by very stiff silts to a depth of 7 feet, followed by very dense sand with large gravel to a depth of 17 feet. Hard clay was then encountered to the depth of 23 feet followed by hard silt to the depth of approximately 32 feet.	15
T0604700198	Geotracker Thurman Distributors	Gravel, up to 1 inch, was encountered in the upper 15 to 20 feet underlain by interbedded layers of medium dense to dense sands and silts and some hard clays to the depth of 110 feet.	90
T0604700184	Geotracker Le Grand Union High School	Dense silty sand with pebbles in the upper 7 to 10 feet underlain by dense to very dense gravels/cobbles to depths of 20 to 25 feet, followed by interbedded layers of dense sands, silts and stiff to hard clays to the depth of 60 feet.	Not indicated
Santa Fe Ave. Bridge over Dutchman Creek	Merced County Bridge	Stiff sandy silt in the upper 5 feet underlain by a layer of 3 feet thick very soft sandy silt, followed by stiff sandy silt to the depth of 13 feet. A layer of medium dense to dense silty sand was then encountered to a depth of 35 feet.	Not indicated

Section 3 - Le Grand to Madera

Site Plan and Geologic Map (Plate 2-4, 2-6, 2-7 and 2-8)
List of Referenced Projects (No.35, No.36 and No.50 through No.61)

Geotechnical data of 14 projects in this section of the alignment was collected and reviewed to study the subsurface conditions. In general, the subsurface conditions in this section are suitable for the proposed construction. The subsoils mainly consist of very loose to loose sands or silty sands in the upper 20 feet underlain by very stiff to hard clays, silts and medium dense to very dense sands. Groundwater at some referenced project sites was as shallow as 4 feet below the existing ground surface. Loose sands and shallow groundwater may pose liquefaction concerns for foundation design. Generalized subsurface conditions for most relevant projects with deep borings are summarized in the following table. Individual soil boring logs with more detailed subsoil information are presented in the Appendix.

In borings drilled for Steward & Nuss in Madera (Geotracker T0603900118), loose sands or silty sands were encountered in the upper 15 feet underlain by medium dense to very dense gravel with silty sand to the depth of 25 feet. Thick layer of dense gravels may pose very difficult driving conditions for concrete or steel pipe piles. Steel H piles or CIDH piles may be needed for structures to be built with similar subsurface conditions in the vicinity of this site.

Generalized Subsurface Conditions – Le Grand to Madera

Project ID	Source	Generalized Subsurface Conditions	Groundwater Table Depth (ft)
Santa Fe Drive Bridge Across the Chowchilla River	Madera County Bridge	Very loose sand and sandy silt in the upper 10 feet underlain by medium dense sand to a depth of 25 feet, followed by loose sandy silt to a depth of 28 feet. Medium dense clayey sand was then encountered to a depth of 32 feet, underlain by very dense sandy gravel and sandy silt to the depth of 48 feet.	borings drilled on the bridge deck; mudline Elev. 270.7 ft
Santa Fe Drive Bridge over Berenda Slough	Madera County Bridge	Very loose silty sands in the upper 15 feet underlain by compact to dense silty sands or clayey sands to the depth of 60 feet. Very stiff to hard clayey silt was then encountered to a depth of 70 feet followed by dense sandy silts to the depth of approximately 82 feet.	4 (Elev. 270.3)
T0603900147	Geotracker	Medium dense to dense sand in the upper 35 feet underlain by very dense gravel to a depth of 40 feet, followed by very dense sand.	Not indicated
BR41-0054	Caltrans Bridge	Medium dense to dense sands with few silty clay and silty sand pockets in the upper 65 feet.	41 (Elev. 209.0 ft)
T0603900069	Geotracker	Medium dense sands and silty sands in the upper 27 feet underlain by medium dense gravelly sand to the depth of 30 feet.	Not indicated
T0603900118	Geotracker Steward & Nuss	Loose sands or silty sands in the upper 15 feet underlain by medium dense to very dense gravel with silty sand to the depth of 25 feet.	19
T0603900001	Geotracker	Loose to medium dense sand or silt in the upper 19 feet underlain by interbedded layers of very stiff to hard clays and medium dense to dense sands and silts to a depth of 37.5 feet, followed by medium dense to dense sands to the depth of 55 feet.	Not indicated
T0603993729	Geotracker	Loose to medium dense sand in the upper 5 feet underlain by dense to very dense sand to a depth of 10 feet, the maximum depth drilled.	Not encountered
SLT5FR274381	Geotracker	Stiff silt in the upper 6 feet underlain by medium dense to dense sands or silty sands to the depth of 25 feet.	Not indicated

Section 4 - Wye Connections to San Jose: Ave 24 and Ave 21

Site Plan and Geologic Map (Plate 2-5 and 2-6)

List of Referenced Projects (No.37 through No.51)

Geotechnical data of 15 projects in this area was collected and reviewed to study its subsurface conditions. In general, the subsurface conditions in this section of the alignment are suitable for the proposed construction. The subsoils mainly consist of very loose to loose sands or silty sands in the upper 10 feet underlain by medium dense to dense sands or silty/clayey sands with occasional

thin layers of soft clays. Very loose to loose sands at the shallow depths and shallow groundwater may pose liquefaction concerns for foundation design.

Generalized subsurface conditions for most relevant projects with deep borings are summarized in the following table. Individual soil boring logs with more detailed subsoil information are presented in the Appendix.

Generalized Subsurface Conditions – Wye Connections: Ave 24 and Ave 21

Project ID	Source	Generalized Subsurface Conditions	Groundwater Table Depth (ft)
BR41-0054	Caltrans Bridge	The subsoils generally consist of medium dense to dense sand layers with few silty clay and silty sand pockets to the maximum explored depth of approximately 65 feet below ground surface.	41
T0603900072	Geotracker	Loose to medium dense sand in the upper 8 feet (fill) underlain by medium dense to dense sand to the depth of 33 feet followed by hard sandy silt to the depth of 41.5 feet.	Not indicated
T0603900114	Geotracker	Loose silty sand in the upper 7 to 10 feet underlain by medium dense to dense sand or silty/clayey sand with interbedded layers of hard silt to a depth of 55.5 feet.	Not indicated
Avenue 23.5 Bridge over Berenda Slough	Madera County Bridge	Very loose silty sand with gravels/cobbles in the upper 4 feet underlain by medium dense to dense silty sands or clayey sands to the depth of 40 feet.	Not indicated
Road 14 Bridge over Berenda Slough	Madera County Bridge	Loose sand in the upper 5 feet underlain by medium dense to dense silty sands to the depth of 71 feet with a thin layer of soft sandy clay at the depth of 35 feet.	Not indicated Mudline at Elev. 192.0 ft
Road 9 Bridge over Ash Slough	Madera County Bridge	Loose sand or clayey sand in the upper 7 feet underlain by soft clayey silt to the depth of 10 feet followed by medium dense to dense sand or clayey sand to the depth of 72 feet.	Not indicated Mudline at Elev. 174.2 ft
Road 8 Bridge over Ash Slough	Madera County Bridge	Drilled from the bridge deck; from the mudline, loose to medium dense silty sands or sandy silts in the upper 40 feet underlain by dense silty sand or clayey sand to the depth of 67 feet.	Not indicated Mudline at Elev. 161.0 ft
Avenue 21 Bridge over Ash Slough	Madera County Bridge	Medium dense sandy silt in the upper 24 feet underlain by loose to medium dense sand and sandy silt to the depth of 44 feet followed by medium dense sand to the depth of 50 feet. (drilled in the slough)	Not indicated
BR41-0054	Caltrans Bridge	Medium dense to dense sands with few silty clay and silty sand pockets in the upper 65 feet.	41 (Elev. 209.0 ft)

Section 5 - South of Madera

Site Plan and Geologic Map (Plate 9)

List of Referenced Projects (No.62 through No.64)

Geotechnical data of 3 projects in this area were collected and reviewed to study its subsurface conditions. In general, the subsurface conditions in this section are suitable for the proposed construction. The subsoils mainly consist of medium dense to dense sands or silty/clayey sands with intermediate layers of very stiff sandy clays in some locations in the upper 90 feet. Groundwater was encountered at Caltrans Bridge BR41-0008 site at the depth of 3 feet below the ground surface. Medium dense sands and shallow groundwater may still pose liquefaction concerns for foundation design. Generalized subsurface conditions for each referenced project are summarized in the following table. Individual soil boring logs with more detailed subsoil information are presented in the Appendix.

Generalized Subsurface Conditions – South of Madera

Project ID	Source	Generalized Subsurface Conditions	Groundwater Table Depth (ft)
BR41-0063	Caltrans Bridge	Medium dense to dense sand to silty sand with intermediate layers of sandy silt to a maximum explored depth of about 60 feet.	Not indicated
BR41-0060	Caltrans Bridge	Medium dense sand with occasional silty sand layers in the upper 30 feet, underlain by very dense sand to a depth of about 45 feet.	Not indicated
BR41-0008	Caltrans Bridge	Dense sand to hard sandy silt with intermediate layers of very stiff sandy clay to the depth of approximately 90 feet.	3 (Elev. 251.0)

4.4 General Groundwater Conditions

Based on the USGS Water-Resources Investigation Report 97-4205, groundwater is generally within 10 to 50 feet of the land surface in the project area; this coincides roughly with the findings from review of existing geotechnical data in the project area. (Refer to Plate 4, General Groundwater Conditions for more details).

5.0 PRELIMINARY EVALUATIONS AND RECOMMENDATIONS

The following preliminary evaluation and recommendations are based upon our understanding of the proposed construction and the findings from review of existing data. If the above-described project conditions are incorrect or are changed subsequently or subsurface conditions encountered during construction are significantly different from those reported, Parikh Consultants, Inc. should be notified so that these discussions and recommendations can be re-evaluated to make appropriate revisions. These preliminary discussions and recommendations are to assist in defining the overall design program. Detail studies will be required during the Design Phase of the project.

5.1 Geologic Hazards

The following subsections discuss the potential geologic hazards that might exist in the project area based on the literature search and research of the existing data. More detailed studies for the California High-Speed Train program should be undertaken in the design phase. Therefore, the discussions in the following sections are preliminary only.

5.1.1 Fault Rupture

A surface fault rupture occurs when an active fault intercepts and displaces the earth's surface. The State of California has delineated zones around active faults in accordance with the Alquist-Priolo Earthquake Fault Zone Act of 1971 in order to mitigate for the effects of surface faulting. No portion of the project alignment is within a State of California Alquist-Priolo Earthquake Fault Zone, and no active faults are known to cross the alternative BNSF alignment. Therefore, the potential for fault rupture to occur across the alignment is considered low.

5.1.2 Seismic Ground Shaking

During an earthquake, fault movement produces seismic waves that radiate in all directions. Seismic waves can produce strong ground shaking that is typically strongest near the source fault and attenuates as the waves move away from their source. The severity of ground shaking is controlled by the interaction of source magnitude, distance travelled, and the type, thickness, and condition of geologic materials that underlie the site. Unconsolidated, recent alluvium or fill may amplify the amplitude and duration of strong ground motions at sites underlain by those materials.

The strongest ground shaking at the project area is expected to be as a result of earthquakes originating on the San Andreas Fault (Mmax=7.9) or the Ortigalita Fault (Mmax=7.1) at a distance of about 70.3 miles and 48.8 miles from the project site, respectively. Based on our preliminary evaluation, both of these faults are capable of producing peak horizontal ground acceleration (PGA) of approximately 0.06g to 0.07g at the project site. Based on our preliminary evaluation per the California High-Speed Train Project Technical Memorandum: 15% Seismic Design Benchmarks (TM 2.10.5) dated March 15, 2010, the PGA estimated for seismic design of BNSF Alignment could be on the order of 0.23g to 0.25g depending on the structure location and soil conditions. Detailed preliminary seismic design parameters at representative locations were presented in Section 5.3.3 of this report.

This potential ground motion value is relatively low compared with more seismically active regions of California. Therefore, strong earthquake ground shaking is not considered to be a significant seismic hazard at the project site. Nevertheless, severe ground shaking could cause structural damages and derailment of moving or stopped trains, possibly resulting in injuries or deaths. Since the consequences of strong ground shaking could be significant, it is recommended that all structures, foundations and embankments must be designed per project specifications for the maximum accelerations estimated based on detailed geotechnical investigations to be conducted during the design phase.

Mitigation measures to reduce the impacts of ground shaking on the project may include ground improvement such as deep soil mixing, jet grouting, soil densification, pile supported structures, etc. The use of specific measures would depend on soil type and stratigraphy, which would be determined at the project design phase.

5.1.3 Liquefaction

Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Submerged cohesionless sands and silts with low relative density are the type of soils usually susceptible to liquefaction. Clays are generally not susceptible to liquefaction.

The formations mapped in the project area are Tertiary and Quaternary alluvial deposits. These are likely to contain deposits of sand and silt, which may be potentially liquefiable when saturated. However, the liquefaction potential is considered low along the BNSF alignment based on the preliminary seismic evaluation and geotechnical data collected. We recommend that the liquefaction potential be further evaluated based on a more-detailed geotechnical investigation at the design phase.

5.1.4 Lateral Spreading

Lateral spreading is a phenomenon in which lateral ground failure/movement occurs at a site underlain by liquefied soil. It is generally believed that the magnitude of lateral movement of liquefaction-induced lateral spreading will be small at sites that have surface gradients less than about one percent where no free face (an abrupt difference in elevation) is present. The project site has a low liquefaction potential and relatively flat topography which means minimal cuts and excavation of slopes will be necessary for the project. Therefore, seismically-induced lateral spreading is not considered a potential hazard along most of the project alignment. However, there are several river/stream crossings along the alternative BNSF alignment that may have such conditions; therefore, site-specific studies should evaluate the potential for lateral spreading to occur at such sites.

5.1.5 Slope Instability

Stability of slopes depends on steepness of the slope, strength of the underlying soils, and pore pressures in the soil. The relatively flat terrain along the majority of the alternative BNSF alignment minimizes the potential for slope failures to occur. There may be potential slope stability issues at the banks of rivers/creeks that will be crossed with new bridges. New slopes may be created at the approaches to overcrossing structures; however, such embankments will generally be made of engineering fills that will include slope stability mitigation measures. In addition, significant excavating, grading, or fill placement during construction could introduce temporary slope stability hazards at bridge sites or elsewhere along the alignment.

5.1.6 Subsidence

Subsidence results from consolidation of porous sediments under heavy load. Subsidence is currently occurring in the project area as a result of loading by sediments that originated from erosion and glacial transport from the Sierra Nevada. However, this subsidence is very gradual and occurs over an extremely long period of time relative to the project life. In general, subsidence due to rapid sedimentation is not considered a likely mechanism for triggering subsidence along the project alignment based on the regional geology. Therefore, subsidence is not considered to be a hazard along the project alignment.

Subsidence due to oxidation or dewatering organic-rich soil is not expected to be a problem along the project alignment since there are no significant thicknesses of organic-rich sediments present beneath it.

Collapse of subsurface cavities in underlying soils or bedrock can result in localized areas of subsidence. The sediments and rocks that comprise the various Tertiary and Quaternary stratigraphic along the project alignment are sands, silts and clays. These deposits are not known to contain cavities that could collapse and result in surface subsidence.

Subsidence can also result from construction activities, such as withdrawal of water from the subsurface soils and placement of loads such as mass fill and new heavy structures. The magnitude of such subsidence and its location should be evaluated during the design phase. Subsidence due to groundwater withdrawal has occurred in the past in the San Joaquin Valley and continues in some localities today. However, areas that are known to have this type of subsidence are well to the south and east of the project site and it is not considered a potential hazard to the project. Changes in groundwater use within and adjacent to the site in the future may result in potential subsidence.

5.1.7 Collapsible Soils

Collapsible soils consist of loose, dry, low-density materials that collapse and compact in response to the addition of water or excessive loading. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. Soil collapse occurs when the land surface is saturated at depths greater than those reached by typical rain events. This saturation eliminates the clay bonds

holding the soil grains together (Mulvey, 1992). Similar to expansive soils, collapsible soils can result in structural damage such as cracking of the foundation in response to settlement of the ground surface. More detailed site-specific study is needed in the design phase to evaluate the level of hazard of potential collapsible soils.

5.1.8 Expansive Soils

Expansive soils are clay-rich soils that have the ability to swell and shrink with wetting and drying. The shrink-swell capacity of expansive soils, combined with seasonal variations in moisture, can result in differential settlement or heave of foundations and embankments. Based on the subsurface information collected, clays and clayey soils were encountered in some portions of the project site, especially within Merced County. Even some silts and clays, though intermixed with granular soil, could have expansion potential. However, the limited extent of these potentially expansive soils within the project area indicates the hazard is relatively low. A detailed site-specific geotechnical investigation is needed to determine the level of expansion potential that exists at specific locations within the project area.

5.1.9 Erosion

Wind and flowing water can erode the ground surface. Wind erosion is not considered to be a substantial hazard within the site region because the surface deposits are older and more consolidated and not susceptible to wind erosion. However, much of the project alignment crosses agricultural lands that are in production, which may, at times, be more susceptible to erosion when the soils are exposed or tilled. The relatively flat terrain along the project alignment reduces the potential for water erosion impacts except along the rivers/creeks. If the bridge structures are designed with footings within creek/river channels, there is the potential for erosion and scour to overexcavate them. Additional studies to be conducted during the design phase should evaluate the potential for erosion and scour impacts where the project will cross creek or river channels.

5.2 Natural Chemical Hazards – Corrosion Potential

Several parameters influence soil corrosivity, including soil resistivity, degree of saturation, pH level, dissolved salts, redox potential and total acidity. Soil resistivity is a measure of the ability of a soil to conduct electrical current and is usually related to the amount of soluble salts in the soil.

Low resistivity generally indicates a more corrosive condition. Another factor influencing corrosion potential is pH level. Soils or water with pH values below pH 7 indicate acidic conditions, and hence, a corrosive environment for metals and concrete. Chloride and sulfate concentrations in soil also can have a corrosive effect on the buried utilities and foundation elements.

The following table summarizes the corrosion testing results taken from Geotechnical Reports by Parikh Consultants, Inc. for projects in the vicinity of BNSF alignment.

Summary of Corrosion Test Results from Geotechnical Reports by Parikh Consultants

Project No.	Project Name	Boring	Depth (ft)	pH	Minimum Resistivity (ohms-cm)	Sulfate (ppm)	Chloride (ppm)
207114.10	Westberry Blvd. Bridge over Fresno River	B-1	25	7.9	4560	26.7	10.5
		B-2	35	7.1	10180	9.4	8.7
		B-3	25	7.8	15540	3.2	6.9
		B-4	15	7.3	19560	5.1	6.7
207101.10	Campus Parkway Overhead	A-07-003	6	8.07	2280	17.8	8.3
207101.BCK	Bear Creek Bridge	BCK-2	6	7.33	1690	29.3	13.3
208112.10	BNSF Railroad Underpass at G Street	B1	11	7.83	1310	5.5	14.5
		RW-7	9.5	7.77	1390	27.6	12.0

For reference, per Caltrans Corrosion Guidelines, September 2003, Version 1.0, for structural elements, Caltrans considers a site to be corrosive if one or more of the following conditions exist for the representative soil and/or water samples taken at the site:

- Chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less.

Based on the corrosion test results, the subsoils at the referenced boring location are not considered corrosive per Caltrans corrosion design guidelines. More detailed study should be done during the design phase to evaluate the soil corrosivity at each structure location. Special considerations and guidelines for foundations and underground facilities in corrosive environments should be included in the design documents. This is an important aspect of the foundation design since structures at many of the locations may require steel piles for foundation support.

5.3 Foundation Support for Bridge Structures

The study of this report has focused mainly on the A1-BNSF alignment. The purpose of this study is to investigate the general geologic setting in the project area and general soil conditions along the alignment through literature review and using readily available soil and groundwater data. Due to the very limited readily available geotechnical data, it is not feasible to perform foundation evaluations for structures at specific locations without site-specific investigations. The following sections present some preliminary evaluations and general discussions that will be subject to revision when site-specific studies are conducted as part of the design phase of the project.

5.3.1 Foundation Type Considerations

Based on the geological and geotechnical information collected, pile foundations are generally required to support bridges and elevated structures. Three commonly used pile foundation types may be considered for preliminary foundation type selections. These include Cast-In-Drilled-Hole (CIDH) pile, PreCast/PreStressed (PC/PS) Concrete pile, and driven steel pile (open-ended pipe pile or H pile). Driven steel pile and PC/PS concrete pile may be the most suitable foundation options at the majority of the structure locations. Further geotechnical exploration is required for detailed recommendations.

5.3.2 Preliminary Bridge Foundations Recommendations

Based on the limited geologic and geotechnical data reviewed, a very preliminary foundation evaluation has been completed for bridges on major waterways within the project limit. Due to the lack of site specific geotechnical studies and very limited information regarding soil conditions and structure type and loads, the assessment included in this report is preliminary and is not intended for use in design of project elements. It should only be used to identify and resolve geotechnical-related preliminary estimation and cost issues.

Section 1 - Merced Area

The proposed A1-BNSF alignment will merge into the A2-UPRR/SR99 corridor in Merced area. We expect a new bridge will be needed near each Caltrans bridge on SR99. In general, the subsoils

in this section of the alignment mainly consist of stiff to hard silts and clays in the upper 20 feet underlain by very stiff to hard clays, silts and medium dense to very dense sands. Groundwater tables at referenced project sites are generally shallow (5 to 8 feet below the existing ground surface).

Major bridge structures identified in this section of the alignment and their preliminary foundation recommendations are summarized in the following paragraphs. The bridge locations are referenced using Post Mile (PM) numbers along SR99 per Caltrans. Caltrans As-Built LOTBs for existing bridges along SR99 were the main references in summarizing subsurface conditions.

BR39-0142/RL, PM14.42 (SR 99):

Subsurface Conditions: At west side: hard to very hard silt was encountered in the upper 8 feet underlain by medium dense to very dense sand and sandy/clayey silt to a depth of approximately 28 feet, followed by very hard silt to a depth of 36 feet. Very stiff to hard silts and clays were then encountered to the depth of 50 feet. At east side: hard to very hard silt was encountered in the upper 8 feet underlain by very stiff to hard silts and sandy silts to a depth of 34 feet, followed by very hard clayey silt to a depth of 42 feet. Hard clayey silt was then encountered to 50 feet depth. Groundwater was encountered at elevation 158 to 160 feet (7 to 8 feet below ground surface).

Foundation Recommendations: Steel piles appear to be the most feasible foundation type at this site due to the possible difficult driving conditions. The existing borings are too shallow to develop a meaningful preliminary recommendation for foundation support at this site. Further geotechnical exploration is required for detailed recommendations. Shallow groundwater may also pose liquefaction concerns that need to be further addressed in the foundation design phase.

BR39-0139/RL, PM14.22 (SR 99):

Subsurface Conditions: At west side: hard silt in the upper 8 feet underlain by very stiff silt to a depth of 16 feet, followed by dense sand and very hard silt to a depth of approximately 33 feet. Very stiff silts and medium dense sands were then encountered to a depth of 65 feet. At east side: a 5 feet thick very hard surficial silt layer is underlain by very stiff to hard silts and medium dense to dense sands to 65 feet depth. Groundwater was encountered at elevation 162 to 164 feet (5 to 7 feet below ground surface).

Foundation Recommendations: Steel piles appear to be the appropriate foundation type at this site due to the possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded pile length of 65 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to develop design recommendations for bridge foundations. Shallow groundwater may also pose liquefaction concerns that need to be further addressed in the foundation design phase.

Bridge No. 39-141, PM 13.90 (SR 99)

Subsurface Conditions: very dense silty sand in the upper 5 feet underlain by medium dense to dense silty fine sand to a depth of approximately 30 feet. Dense to very dense sand were then encountered to a depth of 38 feet, underlain by very hard silt to the depth of 45 feet. Groundwater was encountered at elevation 164 feet (5 feet below ground surface) in 1958.

Foundation Recommendations: Steel piles appear to be the appropriate foundation type at this site due to the possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded pile length of 65 feet for preliminary estimation. Deep borings at the proposed bridge site based on the final design are recommended to develop design recommendations for bridge foundations. Shallow groundwater may also pose liquefaction concerns that need to be further addressed in the foundation design phase.

Bridge No. 39-143, PM 13.09 (SR 99)

Subsurface Conditions: The subsoils consist of very stiff to hard silts and medium dense to dense sands to a depth of 26 feet underlain by hard silt interbedded with very dense sand to a depth of 40 feet (the maximum depth explored). Groundwater was encountered at elevation 168 feet (5 feet below ground surface) in 1958.

Based on LOTB of boring BH-3 drilled by Parikh Consultants for Campus Parkway Overhead project (PM 12.50) on October 24, 2007, and the Soil Boring Report (Geotracker ID T0604713690, PM 13.20), the soil conditions in the upper 40 feet soils are generally consistent with the findings of the Caltrans As-Built LOTBs. The soils below the depth of 40 feet are generally hard lean clay and very stiff silt to the depth of 100 feet below the existing ground surface. Groundwater was encountered in BH-3 at the depth of about 38 feet on October 24, 2007.

Foundation Recommendations: Steel piles appear to be the appropriate foundation type at this site due to the possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded pile length of 65 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to develop design recommendations for bridge foundations.

Bridge No. 39-140R/L, PM 13.86 (SR 99)

Subsurface Conditions: The subsoils consist of predominantly stiff to hard silt and sandy silt in the upper 10 to 18 feet. On the north side, compact to dense clayey and silty sands and hard plastic silts are noted below 10 feet depth, to a depth of approximately 23 feet, underlain by dense medium to coarse sand to a depth of approximately 38 feet. On the south side, dense, coarse to fine sands are noted from approximately 18 feet to 35 feet depth. On both sides, very hard clays and silts are noted below the dense sand layers to 46 feet depth, the maximum depth explored. Groundwater was encountered at elevation 164 feet (6 feet below ground surface) in March/April, 1958.

Foundation Recommendations: Steel piles appear to be the appropriate foundation type at this site due to the possible difficult driving conditions. The existing borings are too shallow to develop a meaningful preliminary recommendation for foundation support at this site. Further geotechnical exploration is required for detailed recommendations. Shallow groundwater may also pose liquefaction concerns that need to be further addressed in the foundation design phase.

Section 2 - Merced to Le Grand

The proposed High-Speed Train track will cross five (5) major waterways in this section of the alignment based on the plan provided. These major waterways include: Miles Creek, Duck Creek, Duck Slough, Deadman Creek and Dutchman Creek. In general, the subsoils in this area mainly consist of medium dense to very dense sands, silts and stiff to hard clays in the upper 70 to 100 feet with interbedded layers of soft clays or loose sands in some locations. Groundwater tables at most of the referenced project sites are between 5 and 15 feet below the existing ground surface.

For most bridges in this section, existing geotechnical data is not sufficient to make meaningful site specific foundation recommendations. For the bridge crossing Dutchman Creek, even though we have the soil boring information for the nearby county bridge: Santa Fe Ave Bridge over

Dutchman Creek (Plate No. 2-3), but these borings were drilled in 1973 and just 35 feet deep. Deep borings at the proposed structure sites are needed to derive detailed foundation design recommendations based on the final structure type and loads.

For general estimation, steel piles appear to be the appropriate foundation type for most bridges in this section of the alignment due to possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded length of 60 feet for preliminary estimation. Deep soil borings are needed at each structure location in the design phase to confirm and update this preliminary evaluation. Shallow groundwater may pose liquefaction concerns that need to be further addressed with site-specific geotechnical studies.

In borings drilled at Le Grand Union High School (Geotracker T0604700184), medium dense silty sand with pebbles were encountered in the upper 7 to 10 feet underlain by dense to very dense gravels/cobbles to depths of 20 to 25 feet. In borings drilled at the Thurman Distributors site (Geotracker T0604700198), gravels up to 1-inch, were also encountered in the upper 15 to 20 feet. It was indicated in the boring logs that some of these gravels may be fill materials. Thick layers of dense to very dense gravels/cobbles may pose very difficult driving conditions for concrete or steel pipe piles. Steel H piles or large diameter CIDH piles may be needed for structures to be built with similar subsurface conditions in the vicinity of these sites. If CIDH piles are designed due to lateral or uplift loads, temporary oscillator casing may be needed during construction. Provisions should be made for hard rock drilling through cobbles and very dense soils in the project specifications.

Section 3 - Le Grand to Madera

The proposed High-Speed Train track will be crossing seven (7) major waterways in this section of the alignment. These major waterways include: Chowchilla River, Ash Slough, Berenda Slough, Berenda Creek, Dry Creek, Fresno River and Cottonwood Creek. For most bridges in this section, existing geotechnical data is not sufficient to make meaningful site specific foundation recommendations. However, foundation evaluations for bridges crossing Chowchilla River and Berenda Slough will be discussed in more details based on the collected soil boring data drilled for the nearby County bridges.

In general, the subsoils in this section of the alignment mainly consist of very loose to loose sands or silty sands in the upper 20 feet underlain by very stiff to hard clays, silts and medium dense to very dense sands. Groundwater at referenced project sites was as shallow as 4 feet below the existing ground surface. In general, driven PC/PS pile may be the appropriate bridge foundation choice for most bridges in this section. An allowable bearing capacity of 100 tons is recommended for 14-inch square PC/PS pile with embedded pile length of 75 feet for preliminary estimation. Steel pile may be required at structure sites with thick dense sand layer at shallow depths. Additional deep soil borings are needed at each structure location during the design phase for detailed foundation recommendations. Shallow groundwater may pose liquefaction concerns that need to be further addressed with site-specific geotechnical studies.

In borings drilled for Steward & Nuss in Madera (Geotracker T0603900118), loose sands or silty sands were encountered in the upper 15 feet underlain by medium dense to very dense gravel with silty sand to the depth of 25 feet. Thick layer of dense gravels may pose very difficult driving conditions for concrete or steel pipe piles. Steel H piles or large diameter CIDH piles may be needed for structures to be built with similar subsurface conditions in the vicinity of this site. If CIDH piles are designed due to lateral or uplift loads, temporary oscillator casing may be needed during construction.

Bridge Crossing Chowchilla River

Subsurface Conditions: Referenced soil boring data for Santa Fe Drive Bridge across the Chowchilla River (Plate 2-4). The subsoils consist of very loose sand and sandy silt in the upper 10 feet underlain by medium dense sand to a depth of 25 feet, followed by loose sandy silt to a depth of 28 feet. Medium dense clayey sand was then encountered to a depth of 32 feet, underlain by very dense sandy gravel and sandy silt to the depth of 48 feet. Ground surface (mudline) was at elevation 270.7 feet.

Foundation Recommendations: Driven PC/PS concrete pile is recommended because it is both feasible and cost effective. An allowable bearing capacity of 70 tons is recommended for 14-inch square PC/PS pile with embedded pile length of 45 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to derive detailed design recommendations for bridge foundations.

Bridge Crossing Berenda Slough

Subsurface Conditions: Referenced soil borings for Santa Fe Drive Bridge over Berenda Slough (Plate 2-4). The subsoils consist of very loose silty sands in the upper 15 feet underlain by compact to dense silty sands or clayey sands to the depth of 60 feet. Very stiff to hard clayey silt was then encountered to a depth of 70 feet followed by dense sandy silts to the depth of approximately 82 feet.

Foundation Recommendations: In general, driven PC/PS concrete pile is recommended for foundation support. An allowable bearing capacity of 70 tons is recommended for 14-inch square PC/PS pile with embedded pile length of 60 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to develop design recommendations for bridge foundations.

Section 4 - Wye Connections to San Jose: Ave 24 and Ave 21

The proposed High-Speed Train track will cross two (2) major waterways in this section of the alignment based on the plan provided. These major waterways include: Ash Slough and Berenda Slough. For most bridges and elevated structures in this section, existing geotechnical data is not sufficient to make meaningful site specific foundation recommendations. In general, the subsoils mainly consist of very loose to loose sands or silty sands in the upper 10 feet underlain by medium dense to dense sands or silty/clayey sands with occasional thin layers of soft clays. For general estimation, driven PC/PS pile may be the appropriate foundation choice. Steel pile may be required at structure sites with thick dense sand layer at shallow depths. An allowable bearing capacity of 70 tons is recommended for 14-inch square PC/PS pile with embedded pile length of 60 feet for preliminary estimation. Deep soil borings are needed at each structure location during the design phase to develop final foundation design recommendations. Shallow groundwater may pose liquefaction concerns that need to be further addressed with site-specific geotechnical studies.

Bridge on Ave 24 over SR99

Subsurface Conditions: Referenced As-Built LOTB (Boring Nos. B-1, B-5 & B-6) for Avenue 24 OC (Bridge No. 41-0054) (Caltrans, 1957). The subsoils generally consist of medium dense to dense sand layers with few silty clay and silty sand pockets to the maximum explored depth of

approximately 65 feet below ground surface. Groundwater was encountered at elevation 209 feet (41 feet below ground surface) in July, 1954.

Foundation Recommendations: Steel piles appear to be the appropriate foundation type at this site due to the possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded pile length of 65 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to develop detailed design recommendations for bridge foundations.

Bridge on Ave 21 over Ash Slough

Subsurface Conditions: Referenced soil borings for Ave 21 over Ash Slough Bridge (Plate 2-5). The subsoils generally consist of medium dense sandy silt in the upper 24 feet underlain by loose to medium dense sand and sandy silt to the depth of 44 feet followed by medium dense sand to the depth of 50 feet.

Foundation Recommendations: In general, driven PC/PS concrete pile is recommended for foundation support. The existing borings are too shallow to develop a meaningful preliminary recommendation for foundation support at this site. Further geotechnical exploration is required for detailed recommendations. Shallow groundwater may also pose liquefaction concerns that need to be further addressed in the foundation design phase.

Section 5 - South of Madera

The San Joaquin River is a major waterway in this section of the alignment. The subsoils mainly consist of medium dense to dense sands or silty/clayey sands with intermediate layers of very stiff sandy clays in some locations in the upper 90 feet. Groundwater was encountered at Caltrans Bridge BR41-0008 site (Route 99) at the depth of 3 feet below the ground surface. Steel piles appear to be the appropriate foundation type for most bridges or elevated structures in this section of the alignment due to possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded length of 75 feet for preliminary estimation. Deep soil borings are needed at each structure location in the design phase to confirm and update this preliminary evaluation. Shallow groundwater may pose liquefaction concerns that need to be further addressed with site-specific geotechnical studies.

Bridge No. 41-0008, PM 00.08 (SR 99 San Joaquin River Bridge)

Subsurface Conditions: The subsoils generally consist of dense sand to hard sandy silt with intermediate layers of very stiff sandy clay to the maximum explored depth of approximately 90 feet below ground surface. Groundwater was encountered at elevation 251 feet (3 feet below ground surface) in July 1984. Further field investigation might be required to analyze liquefaction potential due to high ground water table.

Foundation Recommendations: Steel piles appear to be the most suitable foundation type at this site due to the possible difficult driving conditions. An allowable bearing capacity of 100 tons is recommended for 16-inch diameter open-ended steel pipe pile with embedded pile length of 75 feet for preliminary estimation. Deep borings at the proposed bridge site (based on the final design) are recommended to develop design recommendations for bridge foundations.

5.3.3 Seismic Design Considerations

Based on the California High-Speed Train Project Technical Memorandum: 15% Seismic Design Benchmarks (TM 2.10.5) dated March 15, 2010: in the absence of any project specific seismic design spectra, designers are directed to United States Geological Survey (USGS) Earthquake Hazards Program. USGS has developed 2002 United States National Seismic Hazard Maps of contours of seismic design parameters for the Maximum Considered Earthquake (MCE) event. These mapped parameters are accessible through USGS earthquake ground motion Java calculator, which may be used during 15% seismic design.

For details regarding the seismic ground motion parameters, refer to ASCE7-05 [9, Section 11.4], which defines the parameters S_{MS} and S_{M1}: the 0.2-second and 1.0-second site adjusted spectral response acceleration for the MCE-type event, respectively. The default spectral damping is 5%. Within the Java calculator, 15% Design MCE spectra are to be developed as follows:

1. Choose ASCE 7 Standard.
2. Input project specific latitude and longitude.
3. If no soil data is available, assume Site Class D.
4. Establish site modified Sa vs. T spectral ordinates for MCE.
5. Multiply the Site Modified Sa vs. T spectral ordinates for MCE by an Importance Factor, I = 1.25 (i.e., Occupancy Category III per ASCE 7-05).

We have developed six (6) representative Design MCE spectra for preliminary seismic design considerations. Based on the geotechnical information collected and our experience with the geological formation in the project area, the site can be generally classified as Site Class D. The seismic design parameters obtained based on the procedures described above are summarized in following table. The Design MCE spectra, as presented in Plate 5, were developed based on the S_{DS} and S_{D1} values and an Importance Factor of 1.25.

Summary of Seismic Design Parameters

Site	Site Location (Lat. –Long.)	Site Classification	S_s	S_1	F_a	F_v	S_{DS}	S_{D1}	I
Fresno	36.71768º -119.78458º	D	0.531g	0.229g	1.375	1.943	0.487g	0.296g	1.25
Madera	36.96151º -120.06479º	D	0.549g	0.228g	1.361	1.943	0.498g	0.296g	1.25
Chowchilla	37.12691º -120.25230º	D	0.545g	0.229g	1.364	1.942	0.495g	0.296g	1.25
Le Grand	37.22847º -120.24540º	D	0.510g	0.220g	1.392	1.960	0.473g	0.287g	1.25
Planada	37.28792º -120.31960º	D	0.508g	0.221g	1.394	1.958	0.472g	0.288g	1.25
Merced	37.29573º -120.47280º	D	0.553g	0.235g	1.358	1.931	0.500g	0.302g	1.25

6.0 ADDITIONAL GEOTECHNICAL EXPLORATIONS AND STUDIES

This preliminary geotechnical study was conducted for the A1-BNSF alignment based on the limited geological and geotechnical data available at this time. The purpose of this study is to evaluate the general geologic setting in the project area and general soil conditions along the alignment based on available data. The assessment included in this report is preliminary and intended to help define the overall design program and evaluate cost impacts. This study was planned so as to provide an overview of the subsurface conditions along the project alignment and not for use in structure specific foundation designs. Additional subsurface explorations should be conducted as part of the 30% design. At a minimum the intent of the detail program should be to:

1. Collect data where no readily available LOTBs exist;
2. Refine soil data for specific structures;
3. Update/confirm data to more effectively develop design parameters;
4. Develop a better understanding of the subsurface conditions;
5. Address specific locations where "problem" soil and groundwater conditions may exist.

7.0 LIMITATIONS

Our services consist of professional opinions and recommendations made in accordance with generally accepted geotechnical engineering principles and practices for the defined scope and are based on our data research and the assumption that the subsurface conditions do not deviate from reported conditions. All work done is in accordance with generally accepted geotechnical engineering principles and practices. No warranty, expressed or implied, of merchantability or fitness, is made or intended in connection with our work or by the furnishing of oral or written reports or findings.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in structures, soil, surface water, groundwater or air, below or around this site. Unanticipated soil conditions are commonly encountered and cannot be fully determined by taking soil samples and excavating test borings; different soil conditions may require that additional expenditures be made during construction to attain a properly constructed project. Some contingency fund is thus recommended to accommodate these possible extra costs.

This report has been prepared for the proposed project as described earlier, to assist the engineer in the preliminary (15%) design of this project. In the event any changes in the design or location of the facilities are planned, or if any variations or undesirable conditions are encountered during subsequent studies or during construction, our conclusions and recommendations shall not be considered valid unless the changes or variations are reviewed and our recommendations modified or approved by us in writing.

This report is issued with the understanding that it is the designer's responsibility to ensure that the information and recommendations contained herein are incorporated into the project and that necessary steps are also taken to see that the recommendations are carried out in the field. Additional studies are required to refine and/or update the design to a 30% level.

The findings in this report are valid as of the present date. However, changes in the subsurface conditions can occur with the passage of time, whether they are due to natural processes or to the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur, whether they result from legislation or from the broadening of knowledge. Accordingly, the findings in this report might be invalidated, wholly or partially, by changes outside of our control.

Respectfully submitted,
PARIKH CONSULTANTS, INC.

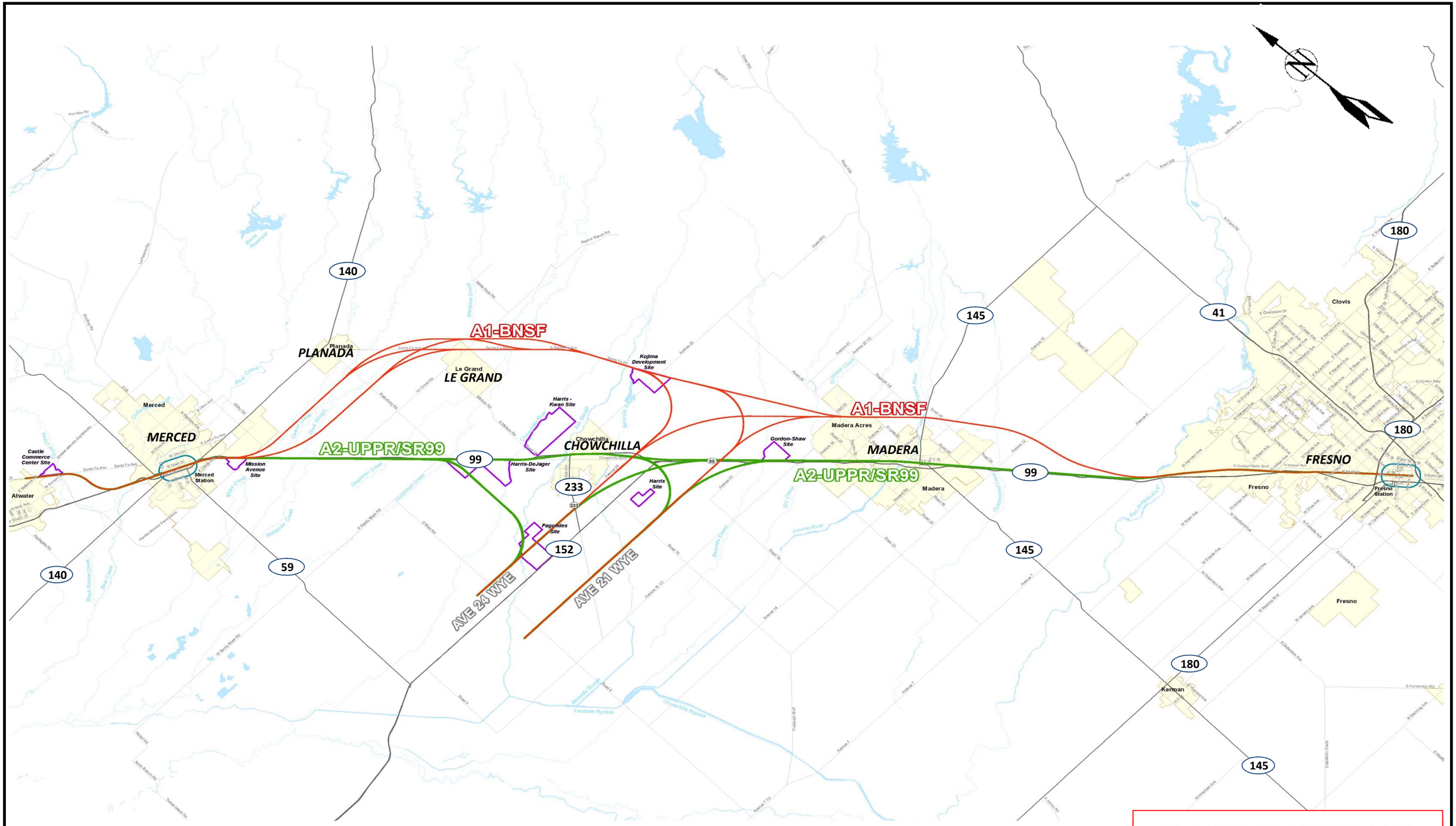
Zengxuan (Frank) Li, Ph.D., P.E. C69415
Project Engineer

James B. Baker, CEG 1021
Project Engineering Geologist

Y. David Wang, Ph.D., P.E. C52911
Senior Engineer

Gary Parikh, P.E., G.E., 666
Project Manager

REGISTERED PROFESSIONAL ENGINEER
GAURANG R. PARIKH
No. 666
EXP. 12-31-11
GEOTECHNICAL
STATE OF CALIFORNIA



10 MILES

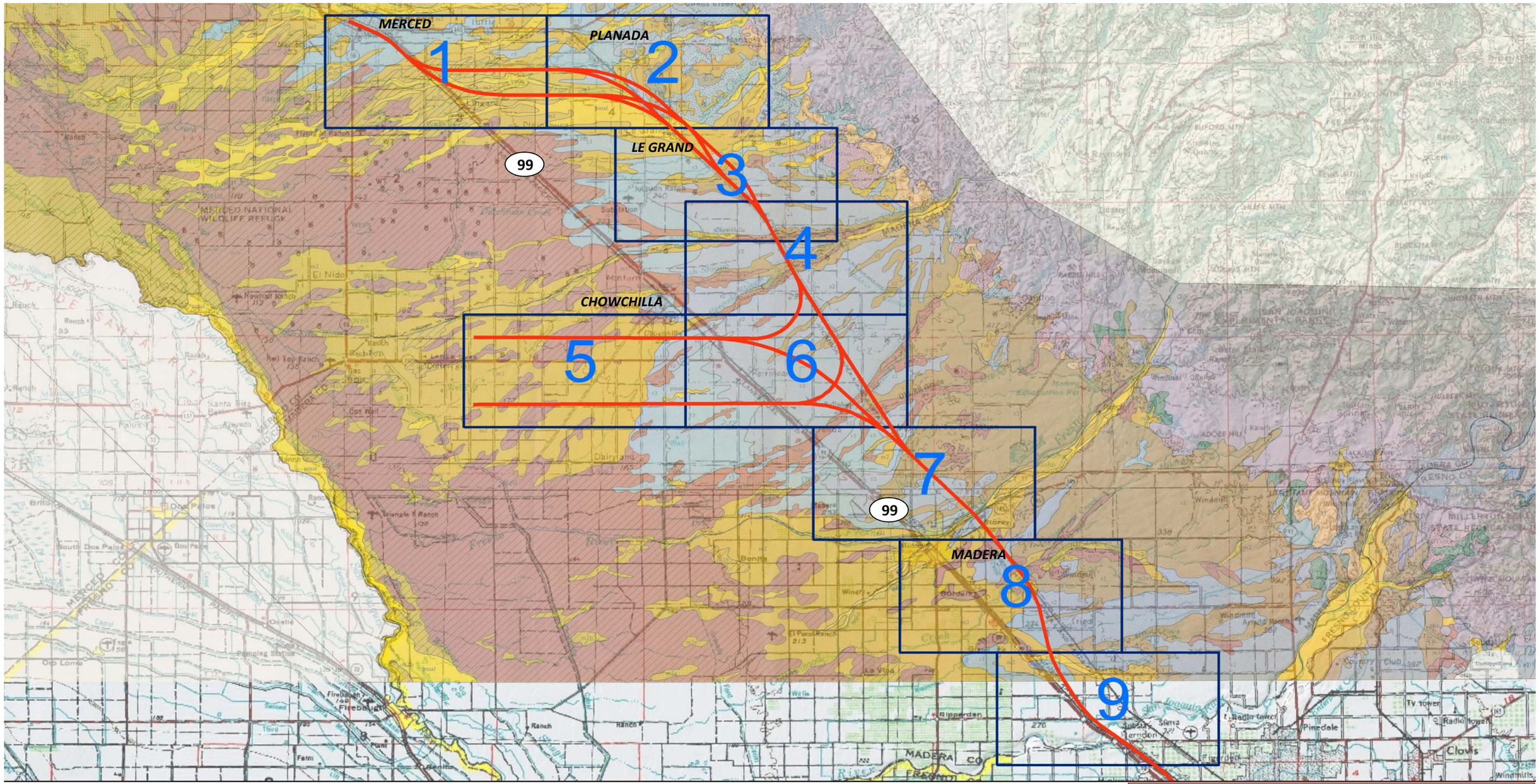
PROJECT LOCATION MAP

FLYCALIFORNIA
Without ever leaving the ground.

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GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 1



GEOLOGIC MAP AND SITE PLAN

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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF	PLATE NO.: 2-0A INDEX PAGE

DESCRIPTION OF MAP UNITS

POST- MODESTO DEPOSITS

pmal — **Undifferentiated alluvium**

pmls — **Marsh and lacustrine deposits**

MODESTO FORMATION
Upper member- Divided into:

m2e — **Eolian sand**

m2 — **Arkosic alluvium along major westward-flowing rivers- Derived from interior of Sierra Nevada. Upper fans and terraces**

m2b — **Fine- grained stratified alluvium of flood basins, lower fans, and interdistributary areas**

Lower member- Divided into:

m1e — **Eolian sand**

m1 — **Arkosic alluvium along major westward-flowing rivers- Derived from interior of Sierra Nevada. Upper fans and terraces**

m1b — **Fine- grained, better stratified alluvium of flood basins, lower fans, and interdistributary areas**

RIVERBANK FORMATION

r3 — **Arkosic sandy channel alluvium**

rg — **Colluvial lag gravel**

r2 — **Middle unit- Arkosic sandy channel alluvium and minor eolian sand**

r1 — **Lower unit- Arkosic sandy alluvium**

TURLOCK LAKE FORMATION
Upper unit- Divisible into:

t2 — **Undiferentiated arkosic alluvium**

t2f — **Friant Pumice Member**

QTnm — **NORTH MERCED GRAVEL**

LAGUNA FORMATION

Tlc — **China Hat Gravel Member**

Tl — **Lower part of Laguna Formation- Includes an upper and a lower unit**

Tm — **MEHRTEN FORMATION**

Tt — **TRACHY ANDESITE OF KENNEDY TABLE**

Te — **COBBLE GRAVEL, TUFFACEOUS SAND, AND ARKOSIC SAND**

Tvs — **VALLEY SPRINGS FORMATION**

Ti — **IONE FORMATION**

Mzb — **UNDIFFERENTIATED INTRUSIVE AND METAMORPHIC BASEMENT ROCKS**

BR41-0064 **BRIDGE NUMBER**

T0603900054 **GEOTRACKER ID**

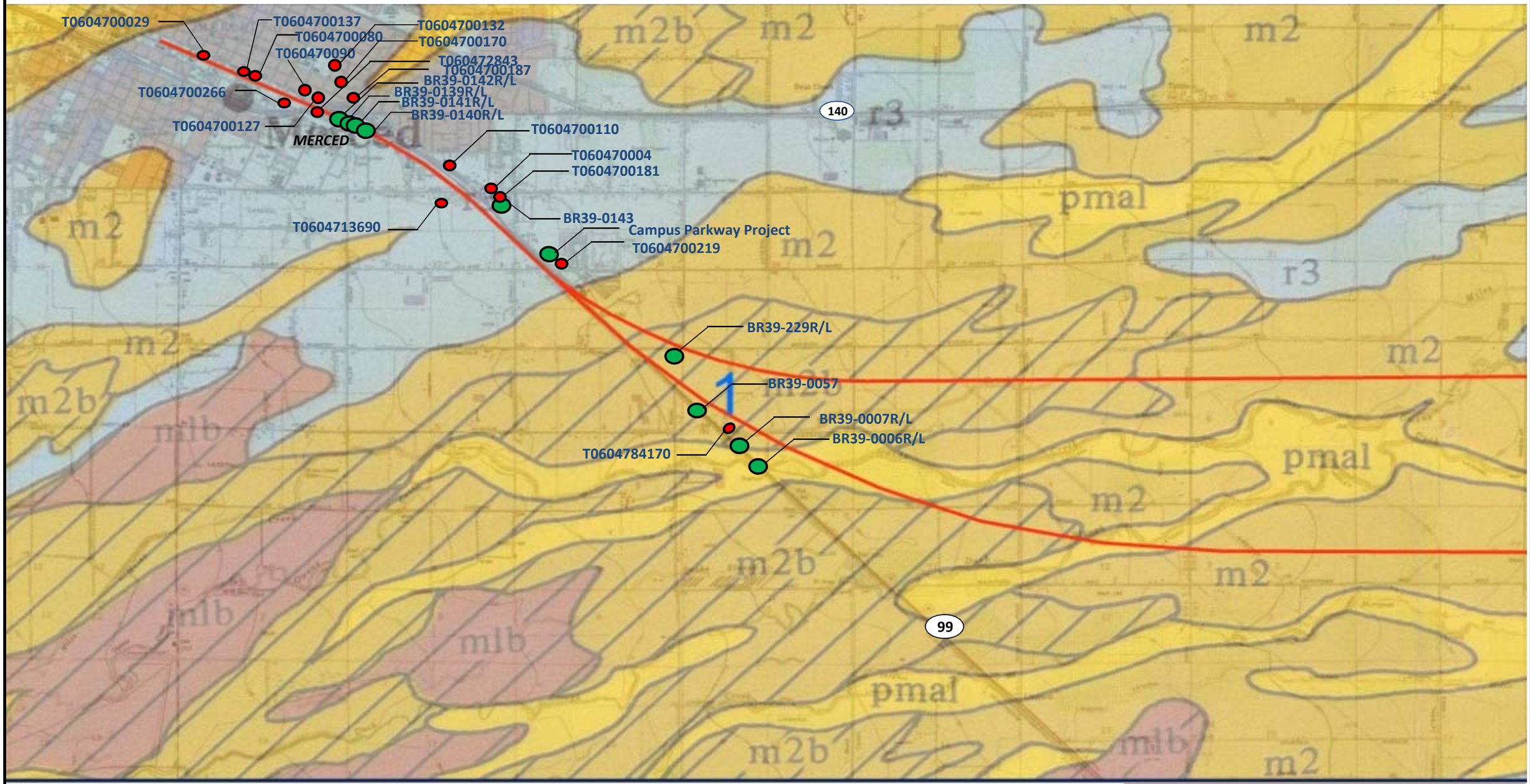
GEOLOGIC MAP AND SITE PLAN

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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 2-0B

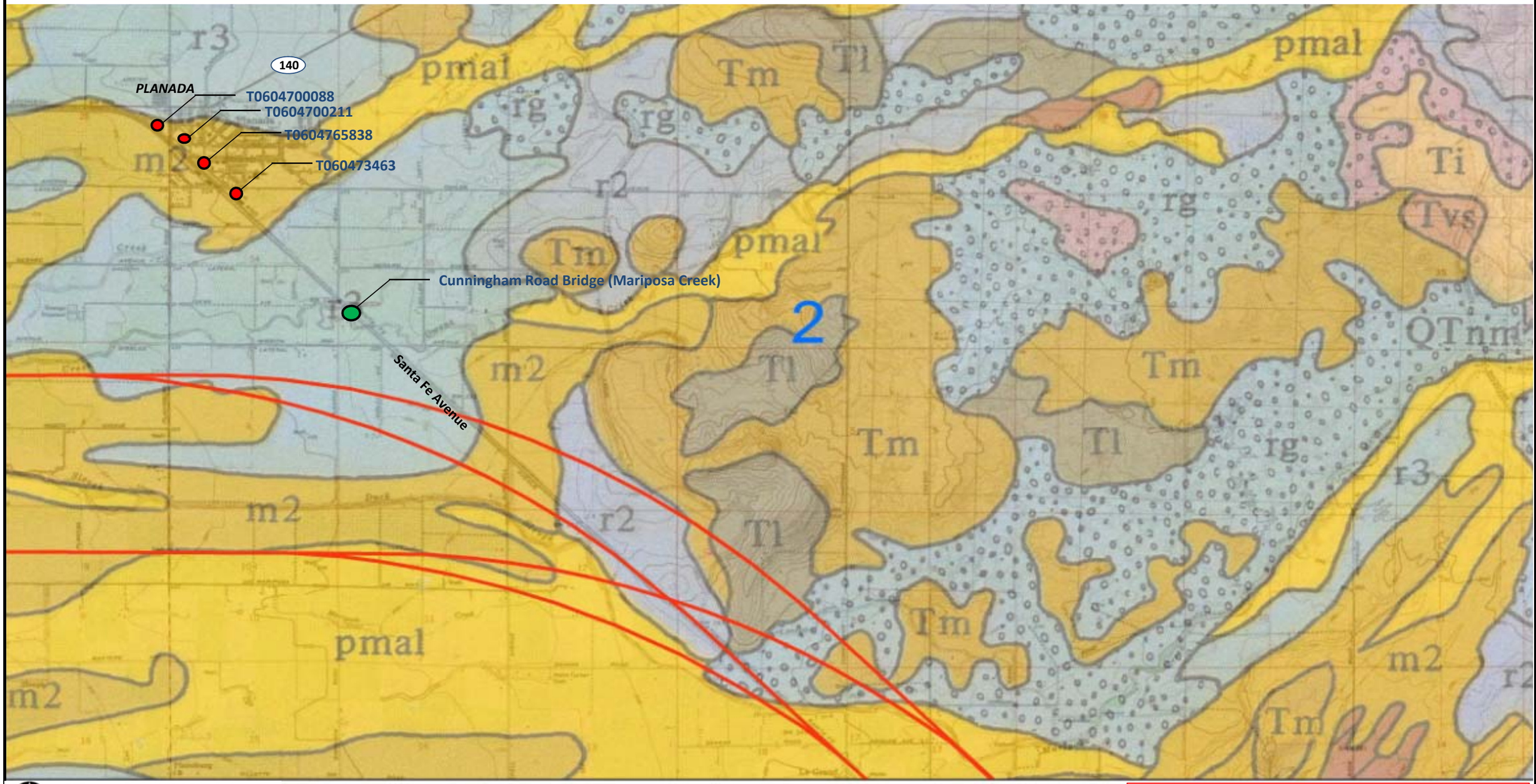


GEOLOGIC MAP AND SITE PLAN

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MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF	PLATE NO.: 2-1

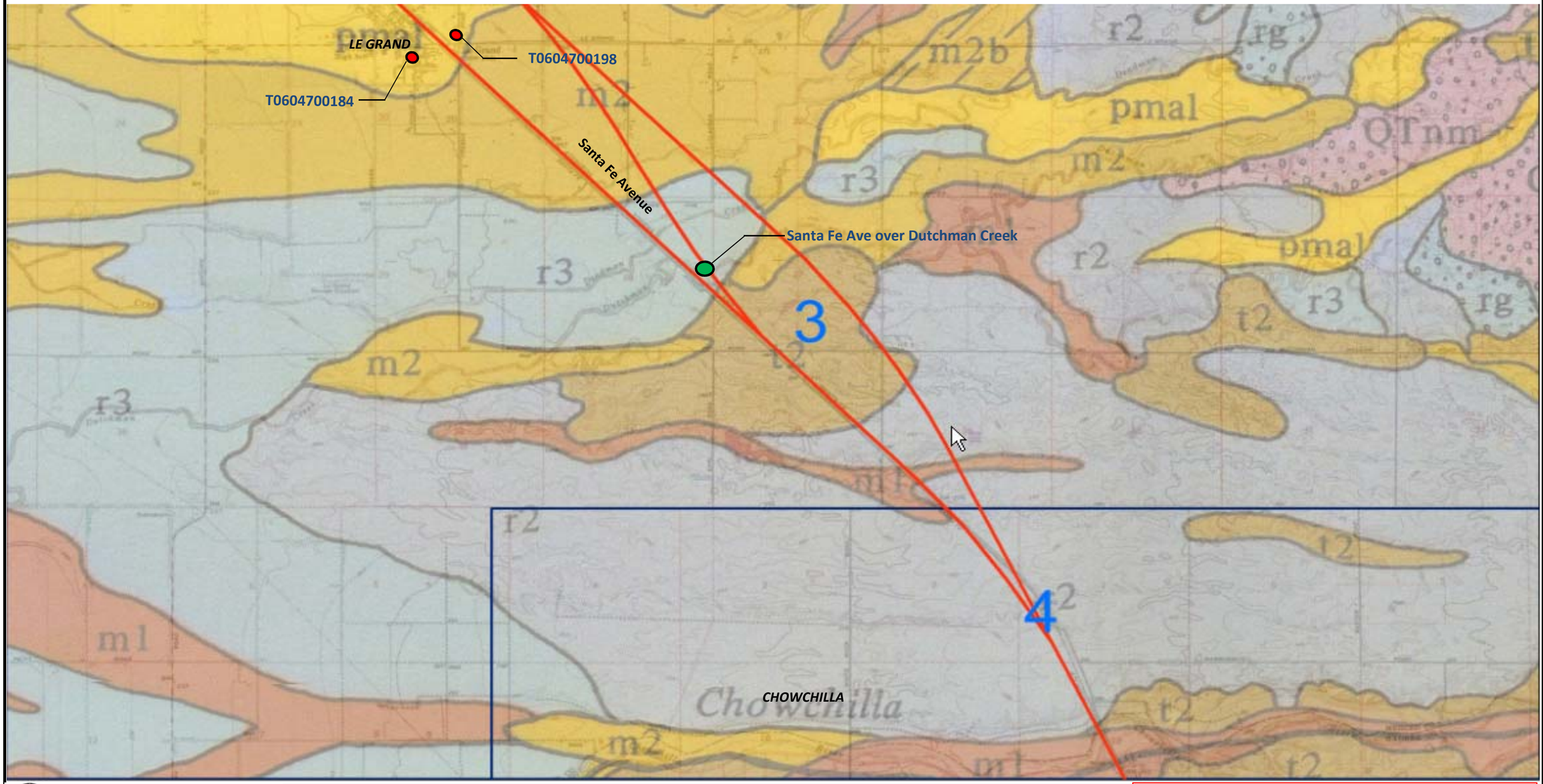


GEOLOGIC MAP AND SITE PLAN

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MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 2-2**



GEOLOGIC MAP AND SITE PLAN

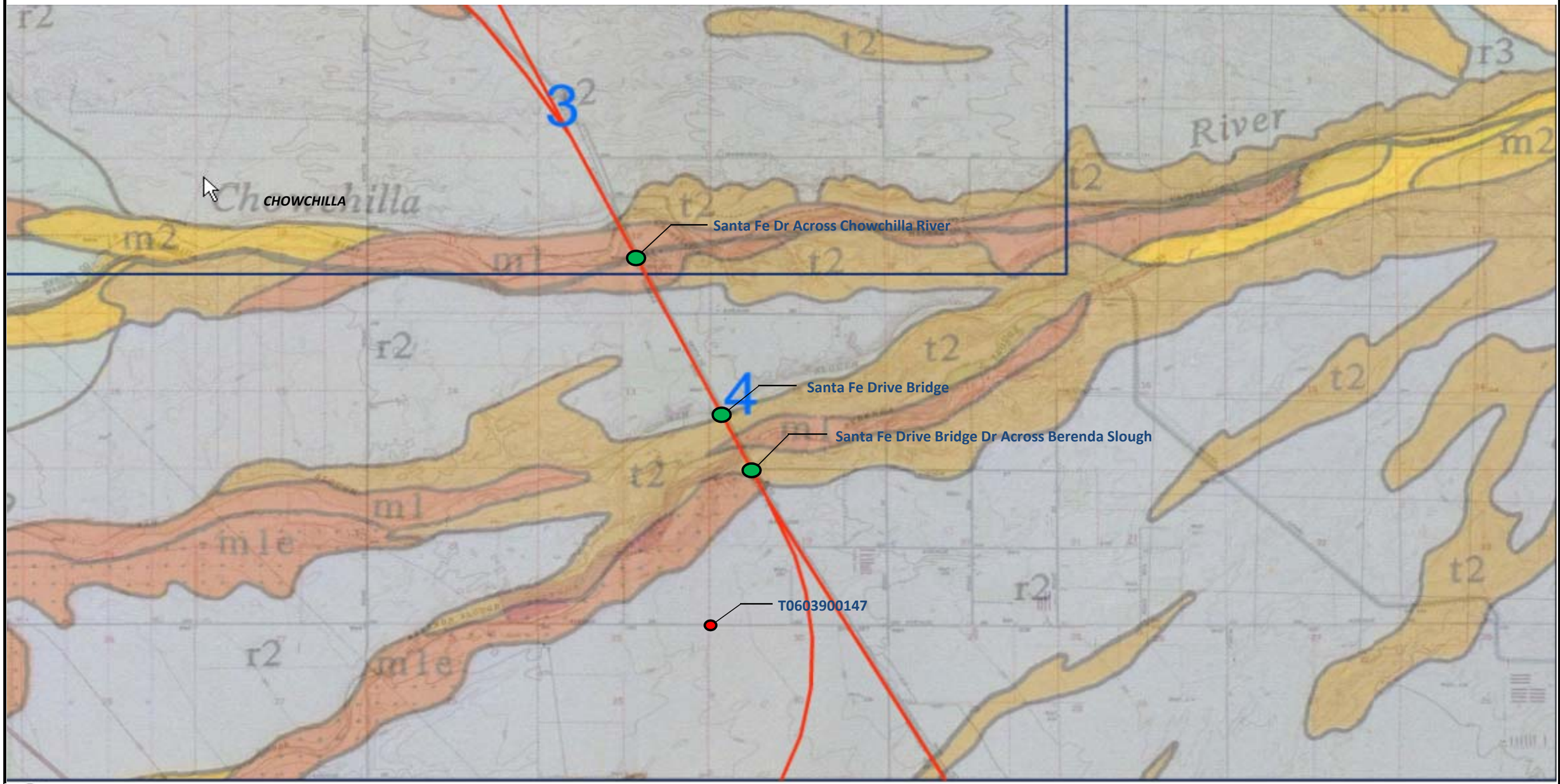
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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF

PLATE NO.: 2-3



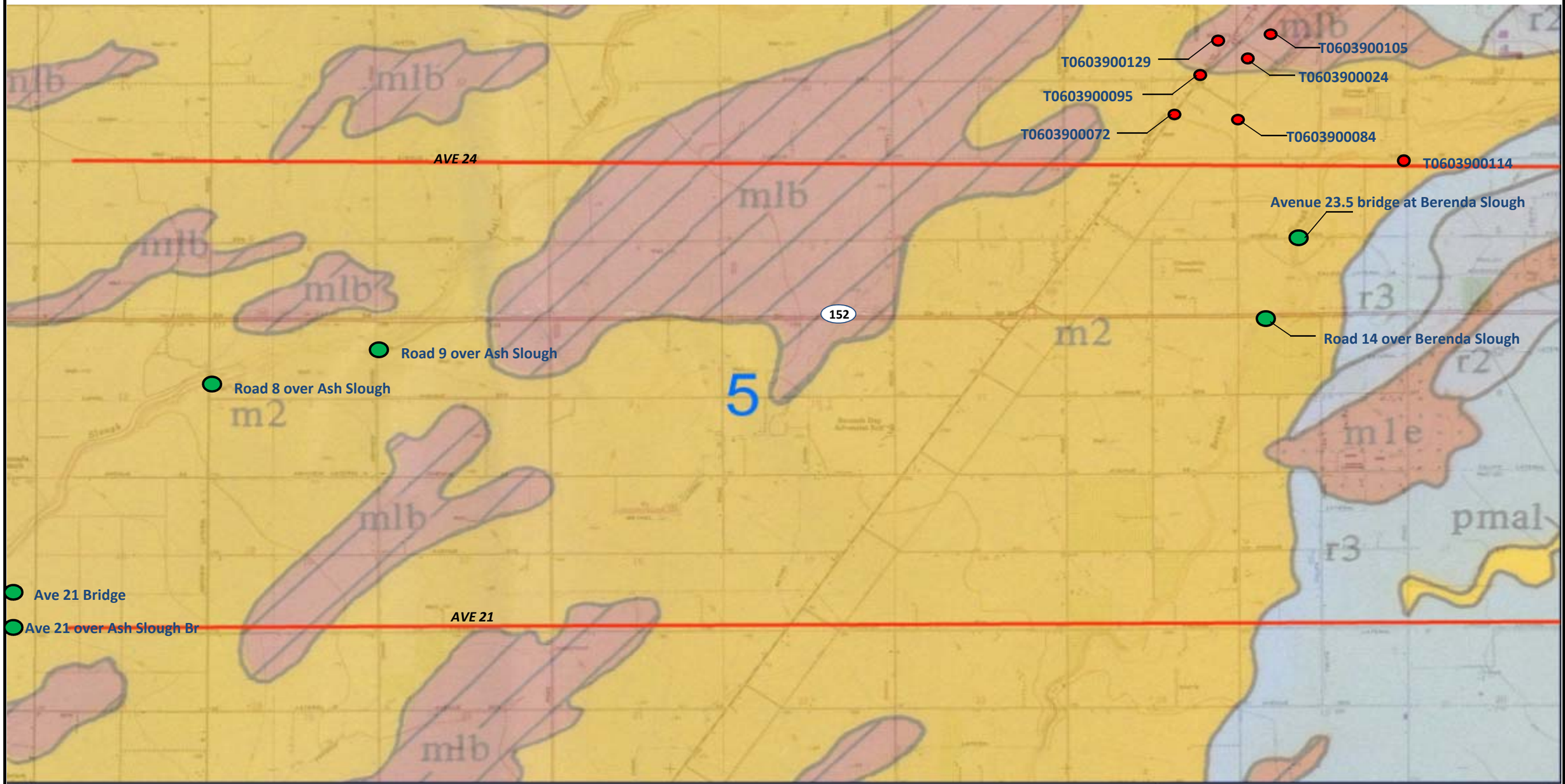
GEOLOGIC MAP AND SITE PLAN

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MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF	PLATE NO.: 2-4



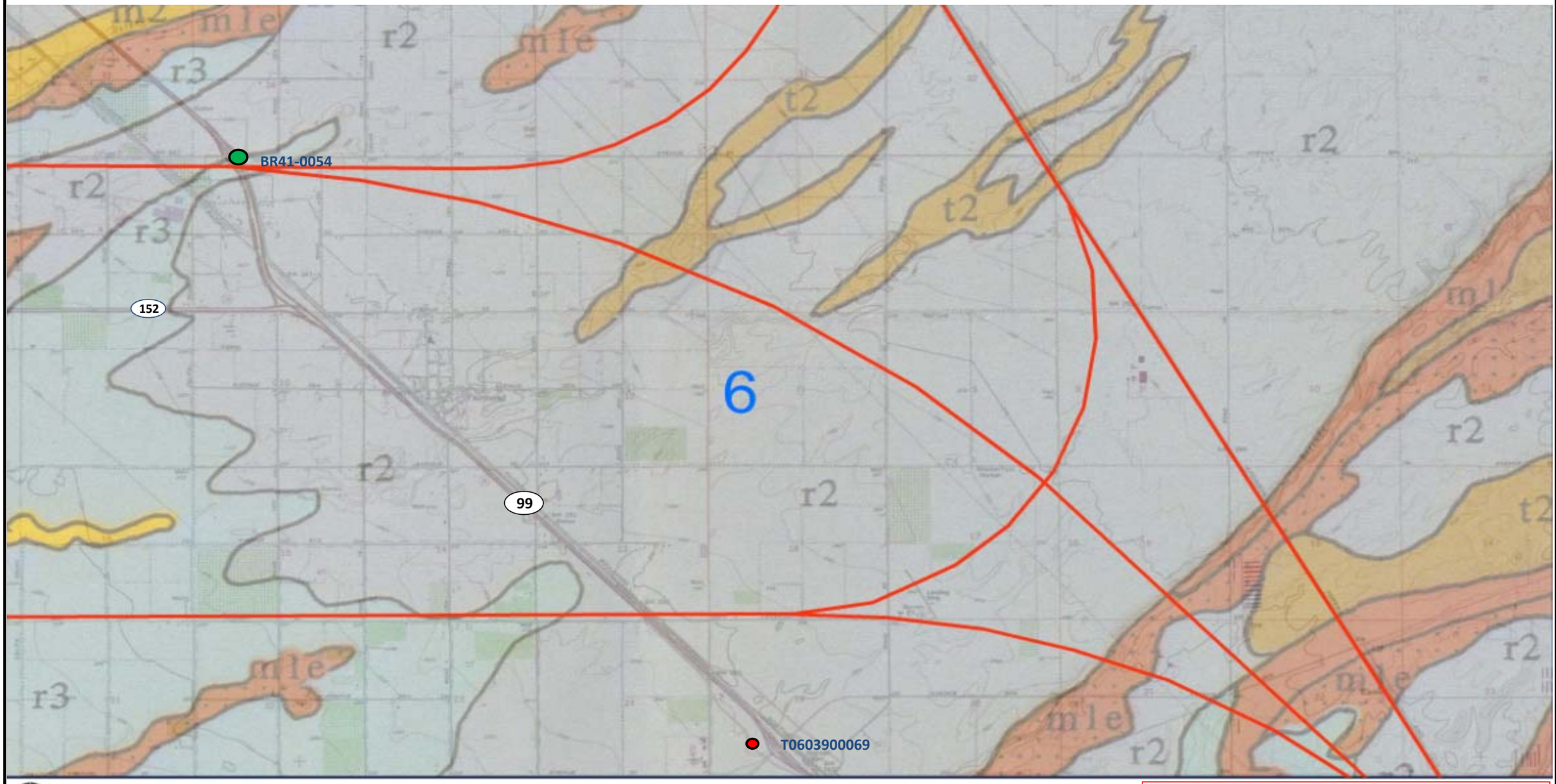
GEOLOGIC MAP AND SITE PLAN

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MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 2-5



0 1,400 2,800 4,200 5,600
Feet

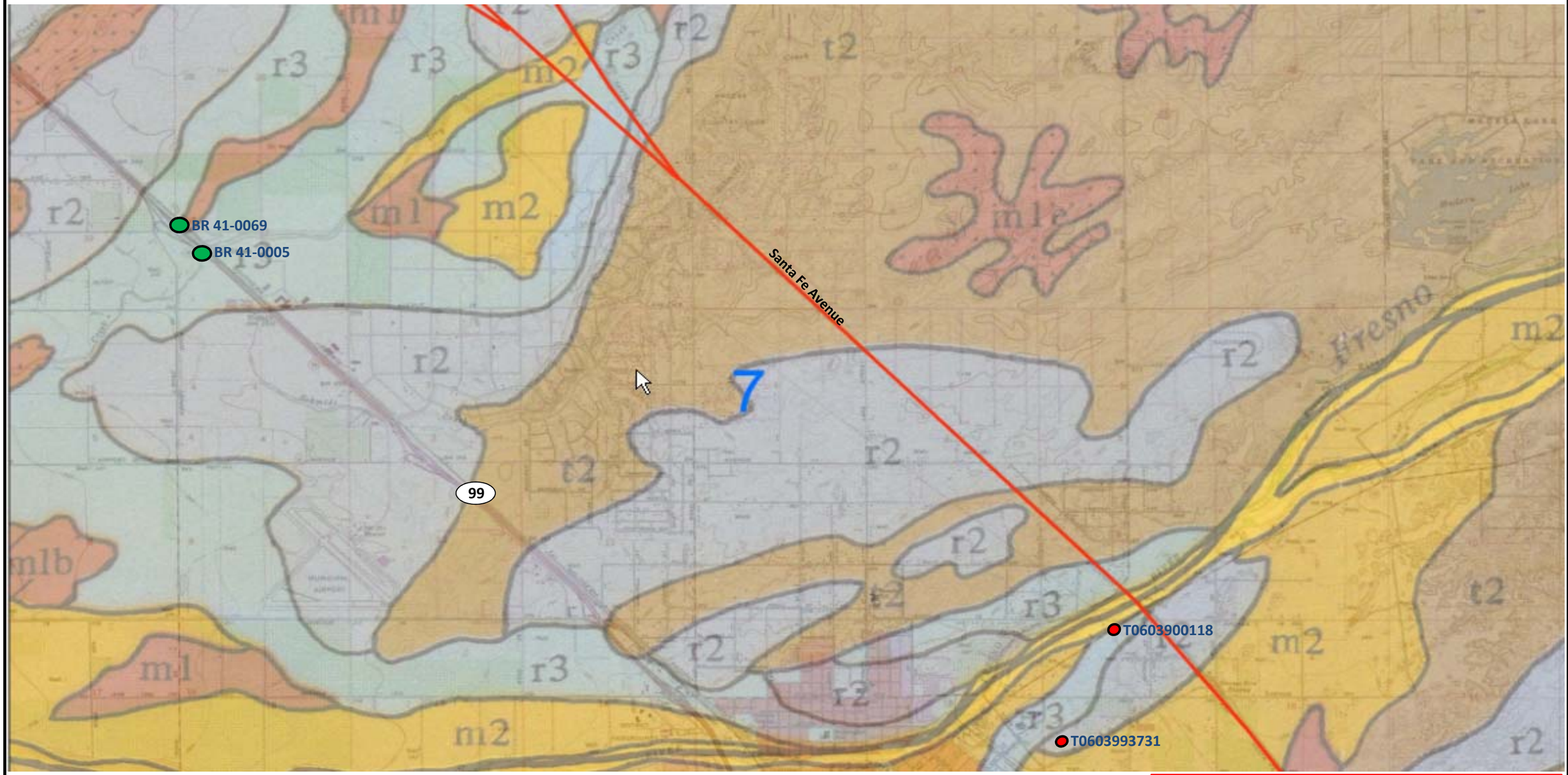
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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 2-6



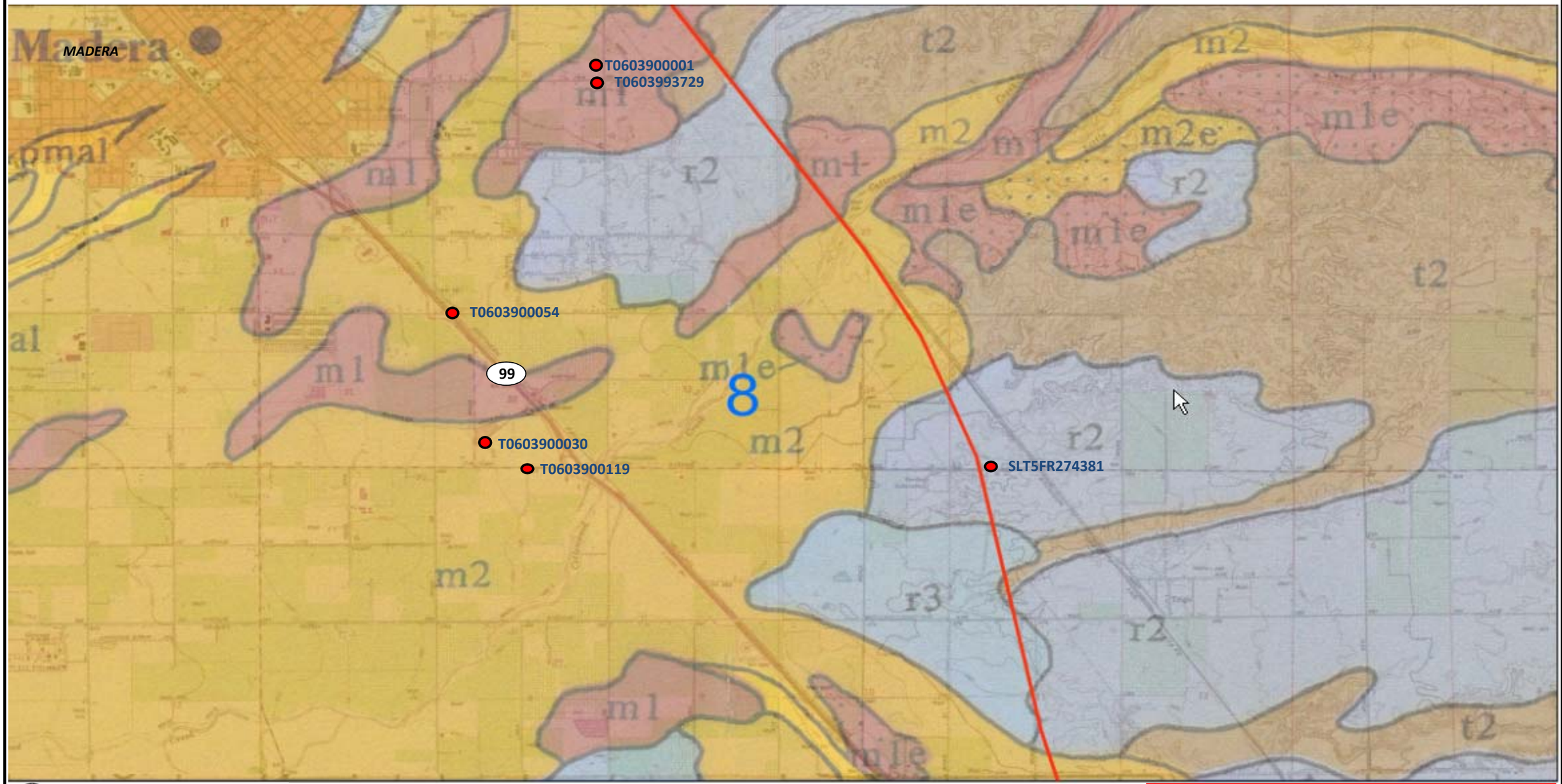
GEOLOGIC MAP AND SITE PLAN

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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF	PLATE NO.: 2-7

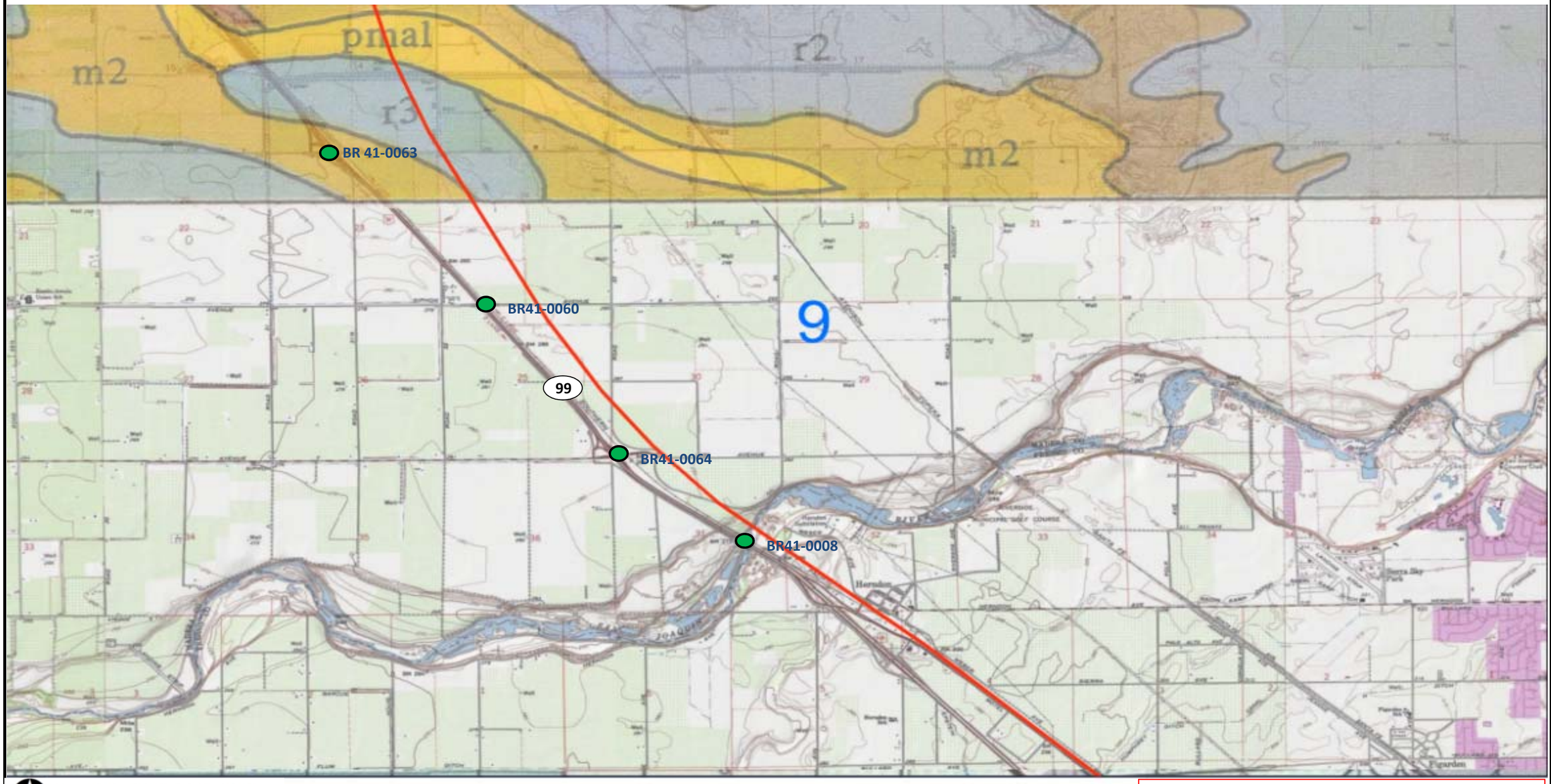


GEOLOGIC MAP AND SITE PLAN

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A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 2-8



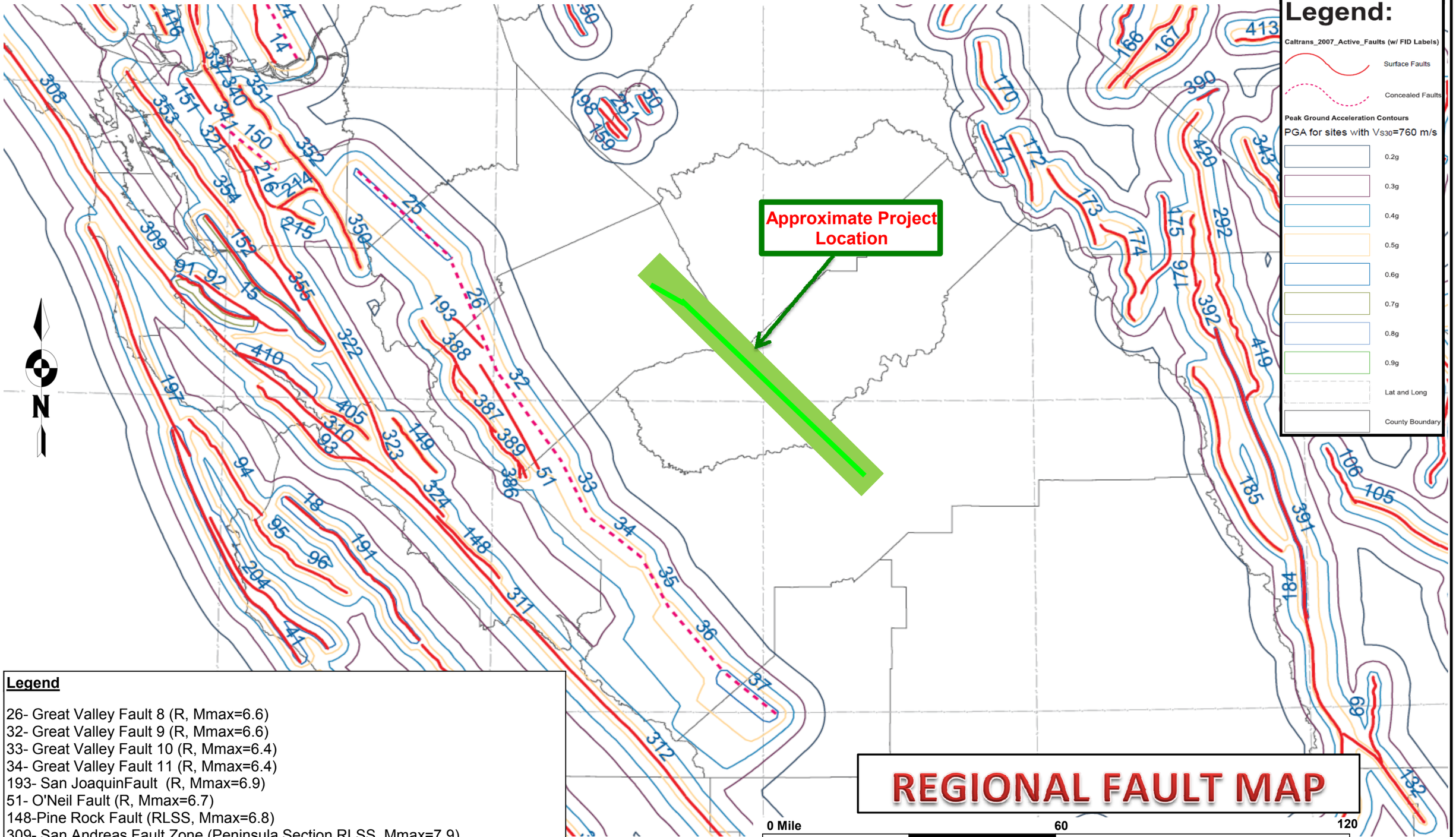
GEOLOGIC MAP AND SITE PLAN

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MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF	PLATE NO.: 2-9



Legend

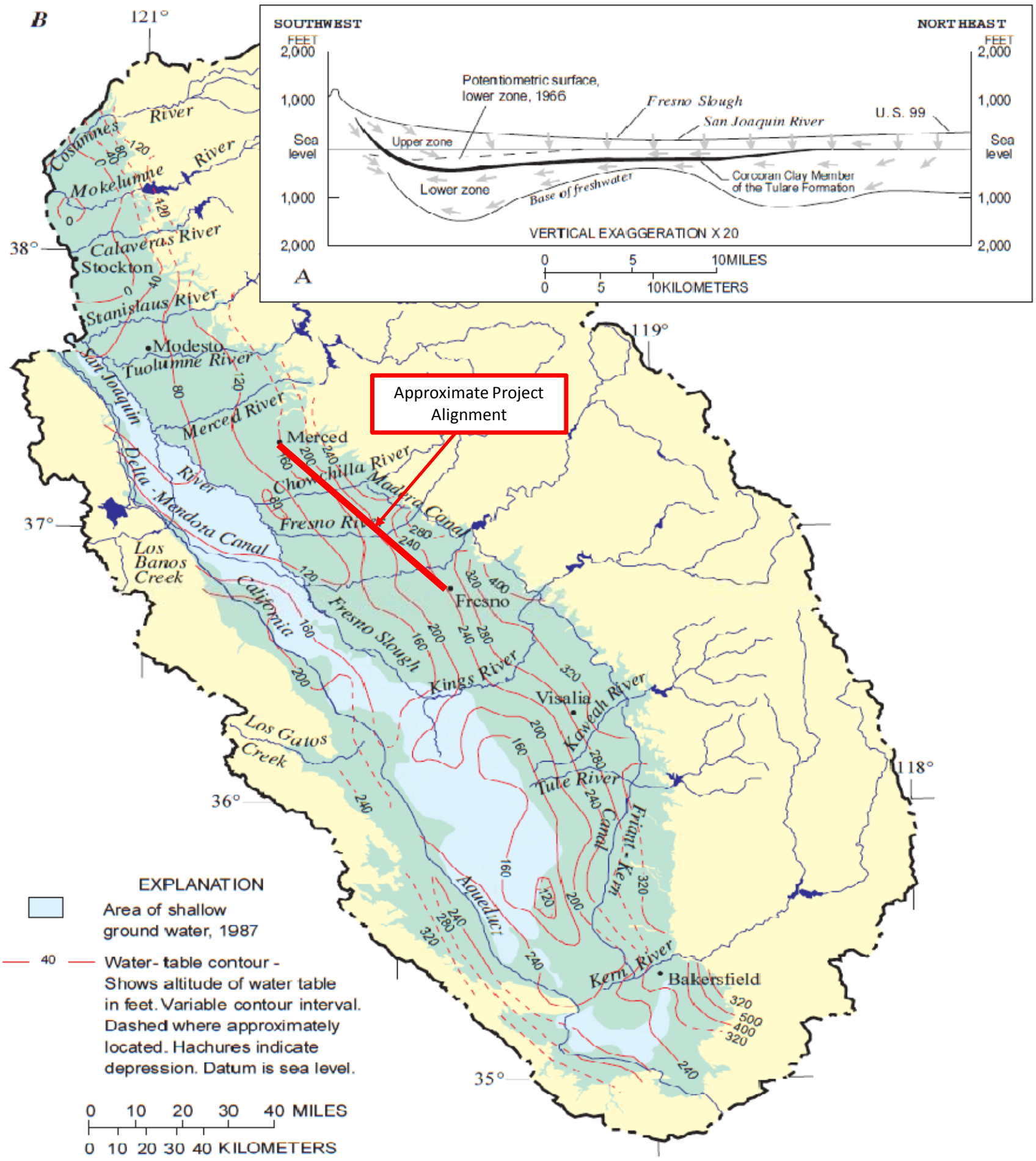
26- Great Valley Fault 8 (R, Mmax=6.6)
32- Great Valley Fault 9 (R, Mmax=6.6)
33- Great Valley Fault 10 (R, Mmax=6.4)
34- Great Valley Fault 11 (R, Mmax=6.4)
193- San JoaquinFault (R, Mmax=6.9)
51- O'Neil Fault (R, Mmax=6.7)
148-Pine Rock Fault (RLSS, Mmax=6.8)
309- San Andreas Fault Zone (Peninsula Section RLSS, Mmax=7.9)
310- San Andreas Fault Zone (Santa Cruz Mountain Section RLSS, Mmax=7.9)
311- San Andreas Fault Zone (Creeping Section RLSS, Mmax=7.9)
312- San Andreas Fault Zone (Parkfield Section RLSS, Mmax=7.9)

REGIONAL FAULT MAP

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GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | PLATE NO.: 3

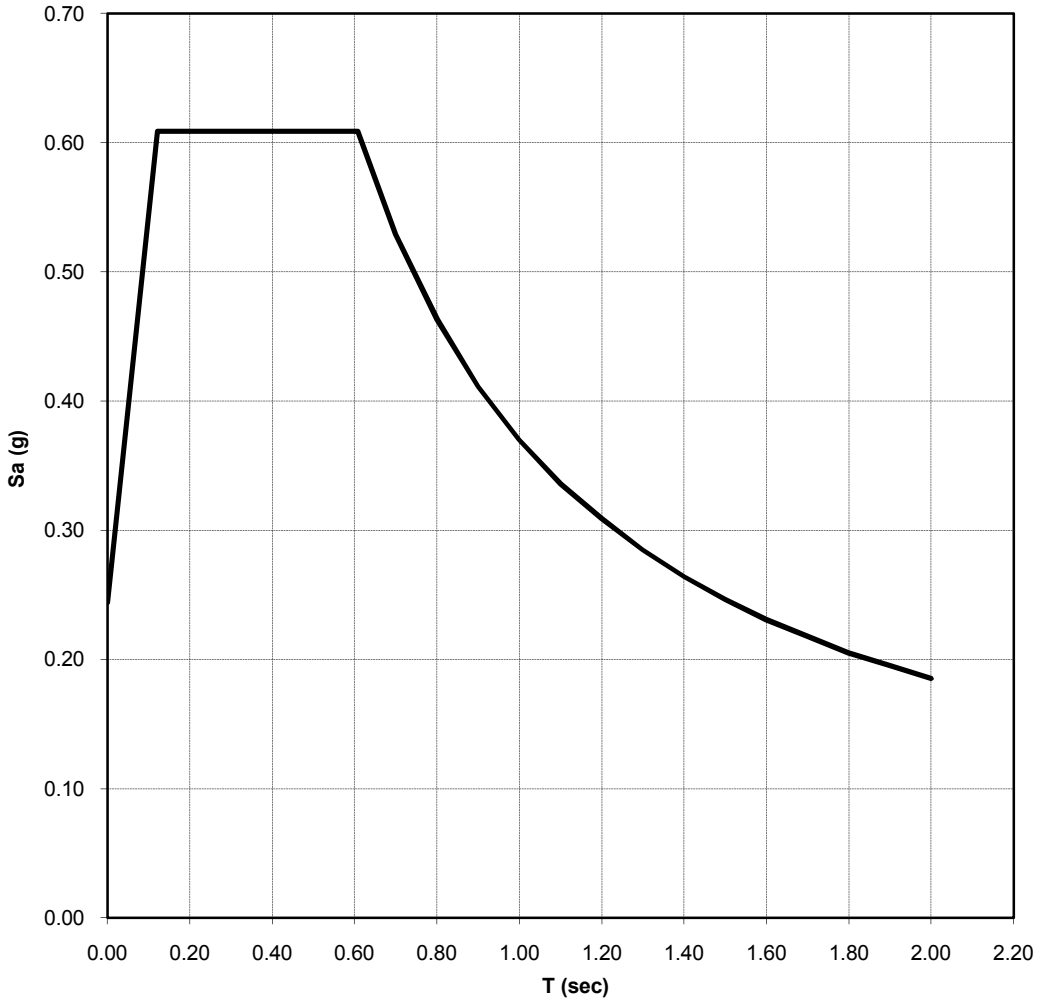


Source: '. (*A*) Ground-water flow conditions in the San Joaquin Valley, California, 1966 (Bertoldi and others, 1991). (*B*) Water table in 1976 (modified from Williamson and others, 1989) and area of shallow ground water in 1987, San Joaquin Valley, California (San Joaquin Valley Drainage Program, 1990b).

PARIKH CONSULTANTS, INC. GEOTECHNICAL CONSULTANTS MATERIALS TESTING	A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION CALIFORNIA HIGH SPEED TRAIN PROJECT	
	JOB NO.:209138.BSF	PLATE NO.: 4

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 36.71768
Longitude = -119.78458
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.375 ,Fv = 1.943
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.244
0.122	0.609
0.200	0.609
0.608	0.609
0.700	0.529
0.800	0.463
0.900	0.411
1.000	0.370
1.100	0.336
1.200	0.309
1.300	0.285
1.400	0.264
1.500	0.246
1.600	0.231
1.700	0.218
1.800	0.205
1.900	0.195
2.000	0.185



MCE DESIGN SPECTRUM (FRESNO)

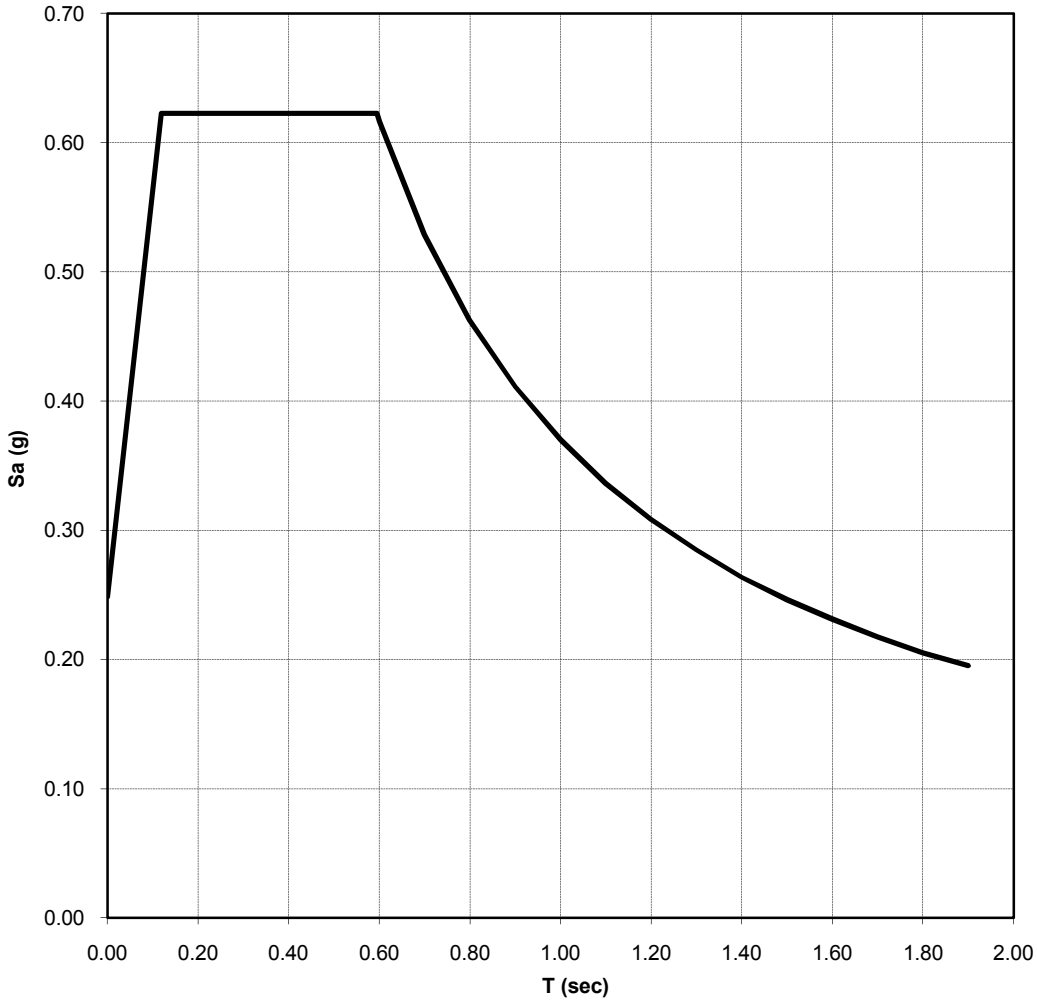
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GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5A**

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 36.96151
Longitude = -120.06479
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.361 ,Fv = 1.943
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.249
0.119	0.623
0.200	0.623
0.595	0.623
0.600	0.616
0.700	0.529
0.800	0.463
0.900	0.411
1.000	0.370
1.100	0.336
1.200	0.309
1.300	0.285
1.400	0.264
1.500	0.246
1.600	0.231
1.700	0.218
1.800	0.205
1.900	0.195



MCE DESIGN SPECTRUM (MADERA)

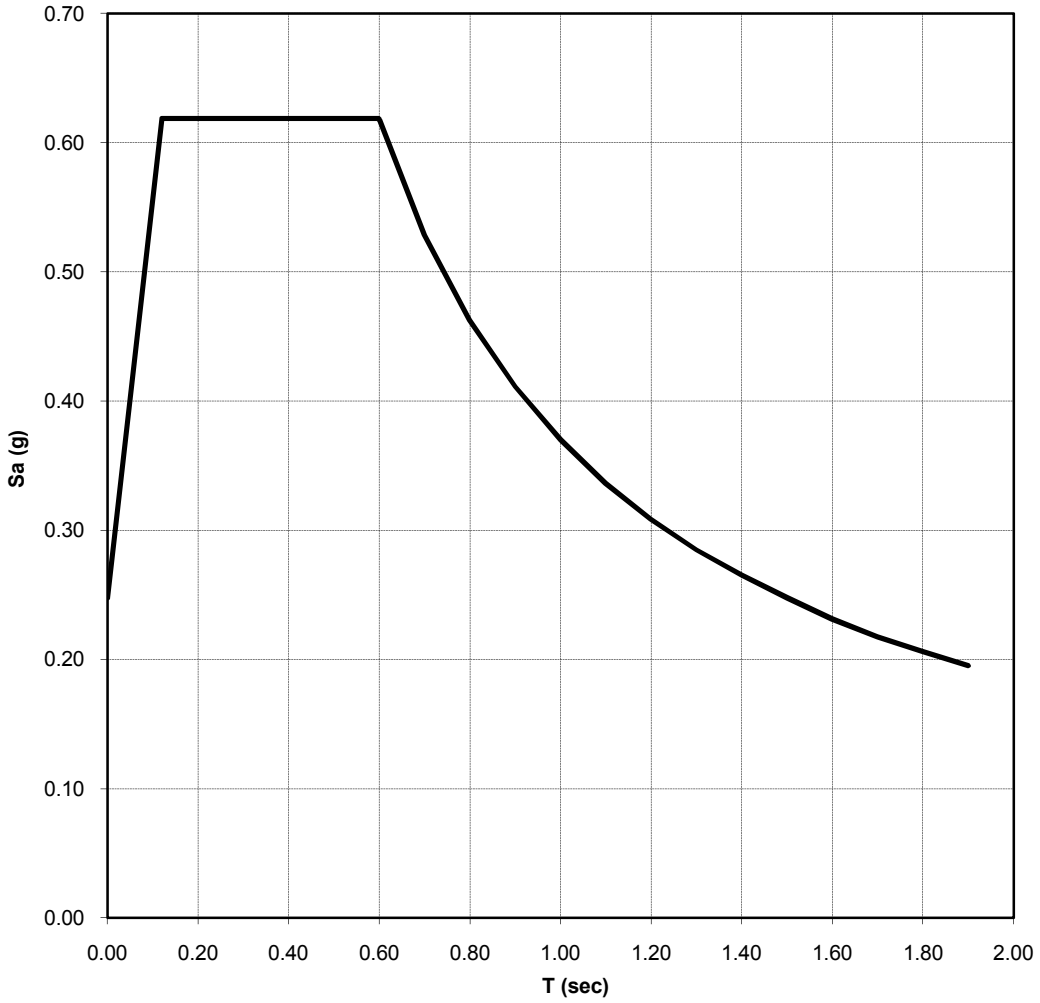
PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5B**

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 37.12691
Longitude = -120.2523
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.364 ,Fv = 1.942
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.248
0.120	0.619
0.200	0.619
0.598	0.619
0.600	0.618
0.700	0.529
0.800	0.463
0.900	0.411
1.000	0.370
1.100	0.336
1.200	0.309
1.300	0.285
1.400	0.265
1.500	0.248
1.600	0.231
1.700	0.218
1.800	0.206
1.900	0.195



MCE DESIGN SPECTRUM (CHOWCHILLA)

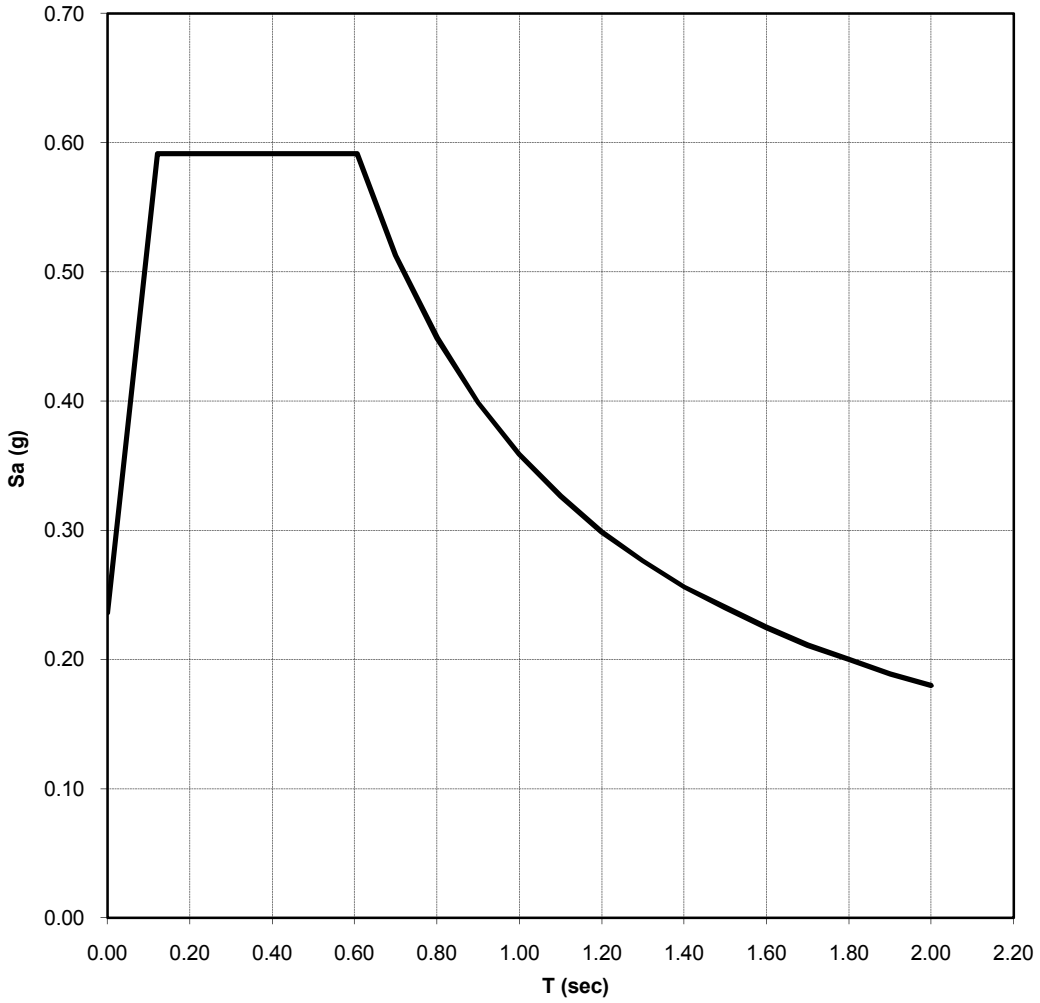
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GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5C**

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 37.22847
Longitude = -120.24540
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.392,Fv = 1.960
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.236
0.121	0.591
0.200	0.591
0.607	0.591
0.700	0.513
0.800	0.449
0.900	0.399
1.000	0.359
1.100	0.326
1.200	0.299
1.300	0.276
1.400	0.256
1.500	0.240
1.600	0.225
1.700	0.211
1.800	0.200
1.900	0.189
2.000	0.180



MCE DESIGN SPECTRUM (LE GRAND)

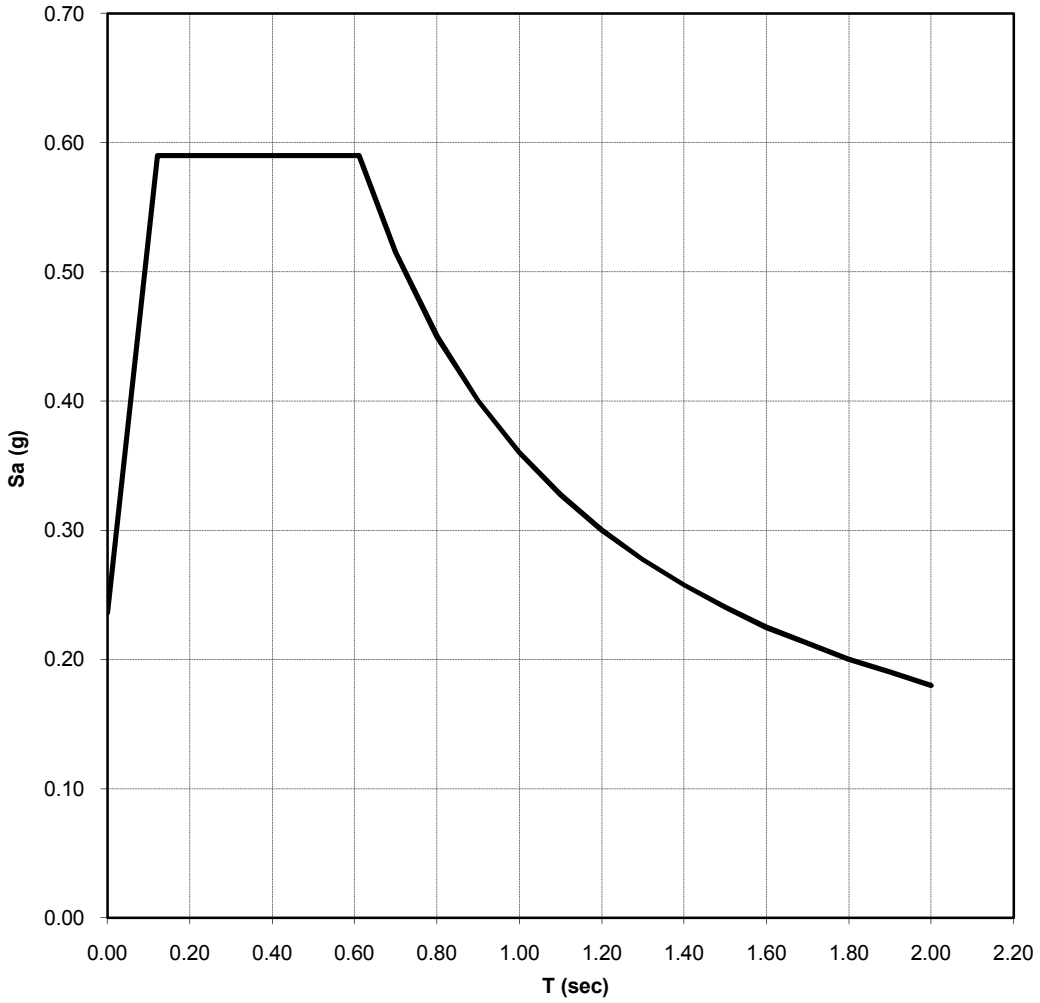
PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5D**

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 37.28792
Longitude = -120.31960
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.394,Fv = 1.958
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.236
0.122	0.590
0.200	0.590
0.611	0.590
0.700	0.515
0.800	0.450
0.900	0.400
1.000	0.360
1.100	0.328
1.200	0.300
1.300	0.278
1.400	0.258
1.500	0.240
1.600	0.225
1.700	0.213
1.800	0.200
1.900	0.190
2.000	0.180



MCE DESIGN SPECTRUM (PLANADA)

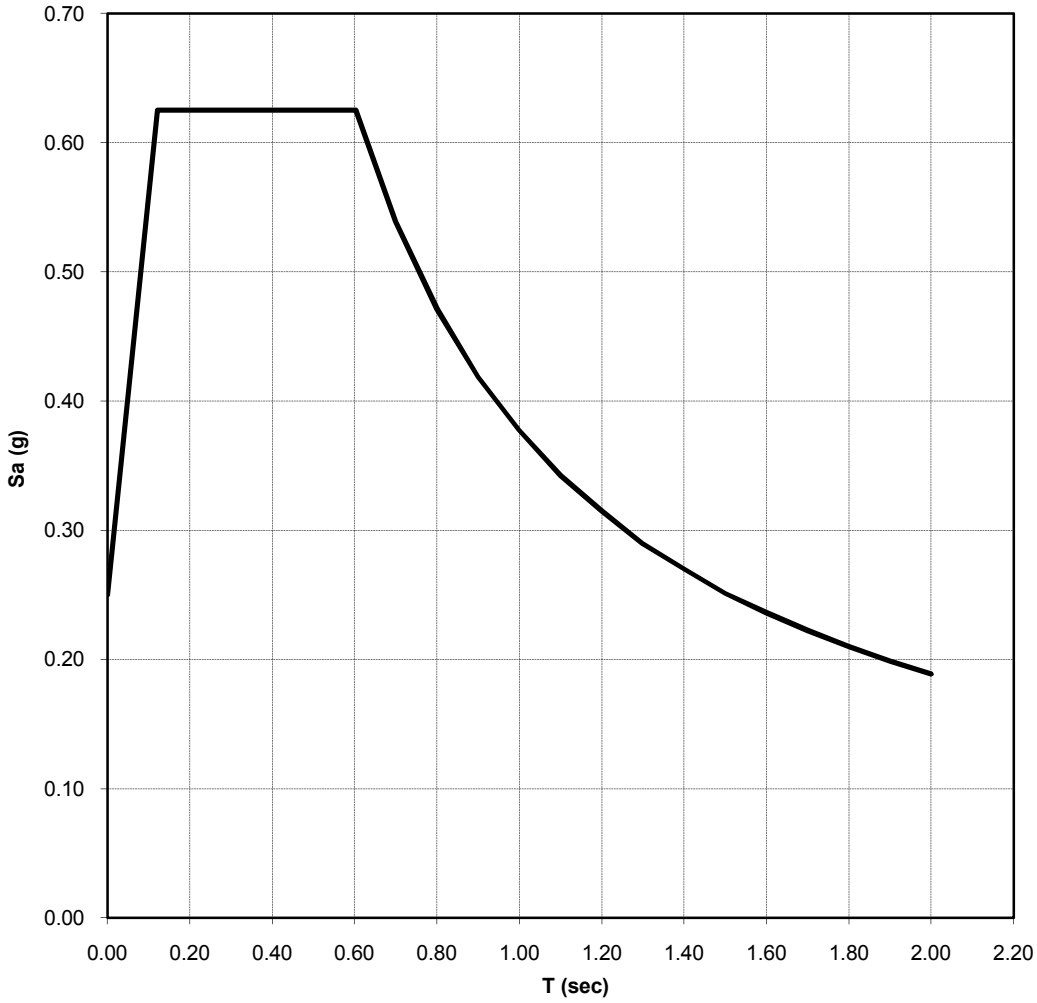
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GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5E**

Conterminous 48 States
2005 ASCE 7 STANDARD
Latitude = 37.29573
Longitude = -120.47280
Design Response Spectra for Site Class Site Class D
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class D - Fa = 1.358 ,Fv = 1.931
Importance Factor, I=1.25

Period (sec)	Sa (g)
0.000	0.250
0.121	0.625
0.200	0.625
0.603	0.625
0.700	0.539
0.800	0.471
0.900	0.419
1.000	0.378
1.100	0.343
1.200	0.315
1.300	0.290
1.400	0.270
1.500	0.251
1.600	0.236
1.700	0.223
1.800	0.210
1.900	0.199
2.000	0.189



MCE DESIGN SPECTRUM (MERCED)

PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

A1-BNSF ALIGNMENT - MERCED-FRESNO SECTION
CALIFORNIA HIGH-SPEED TRAIN PROJECT

JOB NO.: 209138.BSF | **PLATE NO.: 5F**

APPENDIX A

LIST OF REFERENCED PROJECTS

LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-1			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
1	T0604700029	GEOTRACKER	Merced
2	T0604700137	GEOTRACKER	Merced
3	T0604700080	GEOTRACKER	Merced
4	T0604700132	GEOTRACKER	Merced
5	T0604700266	GEOTRACKER	Merced
6	T0604700090	GEOTRACKER	Merced
7	T0604700127	GEOTRACKER	Merced
8	T0604700170	GEOTRACKER	Merced
9	T0604728432	GEOTRACKER	Merced
10	T0604700187	GEOTRACKER	Merced
11	BR39-0142R/L	G Street UC	Merced
12	BR39-0139R/L	15th Street UC	Merced
13	BR39-0140R/L	Route 99/140 Separation	Merced
14	T0604700110	GEOTRACKER	Merced
15	T0604713690	GEOTRACKER	Merced
16	T060470004	GEOTRACKER	Merced
17	T0604700181	GEOTRACKER	Merced
18	BR39-0143	Childs Avenue OC	Merced
19	Campus Parkway Project	Campus Parkway Project	Merced
20	T0604700219	GEOTRACKER	Merced
21	BR39-229R/L	Miles Creek Overflow	Merced
22	BR39-0057	Miles Creek Overflow	Merced
23	T0604784170	GEOTRACKER	Merced
24	BR39-0007R/L	Miles Creek	Merced
25	BR39-0006R/L	Owens Creek	Merced
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-2			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
26	T0604700088	GEOTRACKER	Merced
27	T0604700211	GEOTRACKER	Merced
28	T0604765838	GEOTRACKER	Merced
29	T060473463	GEOTRACKER	Merced
30	Cunningham Road Bridge	(Mariposa Creek)	Merced
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-3			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
31	T0604700198	GEOTRACKER	Merced
32	T0604700184	GEOTRACKER	Merced
33	Santa Fe Ave over Dutchman Creek	Santa Fe Ave over Dutchman Creek	Merced
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-4			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
34	Santa Fe Dr Across Chowchilla River	Santa Fe Dr Across Chowchilla River	Madera
35	Santa Fe Dr Across Berenda Slough	Santa Fe Dr Across Berenda Slough	Madera
36	T0603900147	GEOTRACKER	Madera
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-5			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**

LIST OF REFERENCED PROJECTS

No	Bridge No/Geotracker ID No	Structure Name	County
37	T0603900105	GEOTRACKER	Madera
38	T0603900129	GEOTRACKER	Madera
39	T0603900024	GEOTRACKER	Madera
40	T0603900095	GEOTRACKER	Madera
41	T0603900072	GEOTRACKER	Madera
42	T0603900114	GEOTRACKER	Madera
43	Ave 23.5 bridge at Berenda Slough	Ave 23.5 bridge at Berenda Slough	Madera
44	Road 14 over Berenda Slough	Road 14 over Berenda Slough	Madera
45	Road 9 over Ash Slough	Road 9 over Ash Slough	Madera
46	Road 8 over Ash Slough	Road 8 over Ash Slough	Madera
47	Ave 21 bridge	Ave 21 bridge	Madera
48	Ave 21 over Ash Slough Bridge	Ave 21 over Ash Slough Bridge	Madera
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-6			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
49	BR41-0054	Avenue 24 OC	Madera
50	T0603900069	GEOTRACKER	Madera
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-7			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
51	BR41-0069	Avenue 18 1/2 OC	Madera
52	BR41-0005	Dry Creek	Madera
53	T0603900118	GEOTRACKER	Madera
54	T0603993731	GEOTRACKER	Madera
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-8			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
55	T0603900001	GEOTRACKER	Madera
56	T0603993729	GEOTRACKER	Madera
57	T0603900054	GEOTRACKER	Madera
58	T0603900030	GEOTRACKER	Madera
59	T0603900119	GEOTRACKER	Merced
60	SLT5FR274381	GEOTRACKER	Merced
LOG OF BORINGS SHOWN ON GEOLOGIC MAP & SITE PLAN 2-9			
No	**Bridge No/Geotracker ID No**	**Structure Name**	**County**
61	BR41-0063	Avenue 9 OC	Merced
62	BR41-0060	Avenue 8 OC	Merced
63	BR41-0008	San Joaquin River	Merced

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-1

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**AS-1** PAGE 1 OF 2	
PROJECT NUMBER:			
DRILLING: STARTED 7/10/07	COMPLETED: 7/10/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/10/07	COMPLETED: 7/10/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY: Test America Drilling		GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT: Airknife/ CME-75		INITIAL DTW (ft): NE 7/10/07	BOREHOLE DEPTH (ft): 51.5
DRILLING METHOD: Hollow Stem Auger		STATIC DTW (ft): 44.5 7/11/07	WELL DEPTH (ft): 51.5
SAMPLING EQUIPMENT: CA Split Spoon		WELL CASING DIAMETER (in): 3/4	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			5" Asphalt							12-inch Well Box With Rebar Concrete
		ML	**SILT WITH CLAY**; ML; dark brown; low plasticity; soft; dry; no odor; (0,10,80,20)							
7/10/07 Start: 1150			Air knifed to 5' bgs on 7/9/07							
5			Similar as above (SAA), brown, thin root casts.		1210 AS-1-6	1	3 3 6	0	5	Neat Cement Grout
10		ML	**SANDY SILT**; ML; olive brown; low plasticity; soft; dry; no odor; (0,30,70,0)		1215 AS-1-11	1.5	5 5 10	2.0	10	3/4-inch SCH 80 PVC Blank
15		SM	**SILTY SAND**; SM; olive brown; medium dense; moist; moderate odor; fine gravel; fine to medium sand; (10,60,30,0)		1220 AS-1-16	1.5	11 15 22	87.5	15	
20		ML	**SANDY SILT**; ML; olive brown; low plasticity; stiff; dry; moderate odor; blue HC staining; (0,30,60,10)		1230 AS-1-21	1.5	15 26 30	24.4	20	
25		ML	**CLAYEY SILT WITH SAND**; ML; olive brown; low plasticity; stiff; dry; moderate odor; fine sand; blue HC staining; (0,10,60,30)		1240 AS-1-26	1	7 30 42	3.1	25	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**AS-1** PAGE 2 OF 2	
PROJECT NUMBER:			
DRILLING: STARTED 7/10/07	COMPLETED: 7/10/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/10/07	COMPLETED: 7/10/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY:	Test America Drilling	GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT:	Airknife/ CME-75	INITIAL DTW (ft): NE 7/10/07	BOREHOLE DEPTH (ft): 51.5
DRILLING METHOD:	Hollow Stem Auger	STATIC DTW (ft): 44.5 7/11/07	WELL DEPTH (ft): 51.5
SAMPLING EQUIPMENT:	CA Split Spoon	WELL CASING DIAMETER (in): 3/4	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
	SM	**SILTY SAND**; SM; light olive brown; fine-grained; dense; dry; slight odor; (0,60,40,0)		-	1	27 50/4	0.8		
35	CL	**SILTY LEAN CLAY**; CL; light olive; medium plasticity; very stiff; dry; slight odor; green HC staining; root casts; (0,0,30,70)		-	1	13 17 34	0	35	Neat Cement Grout
40		SAA, no HC odor; no root casts		-	1	17 32 37	1.4	40	3/4-inch SCH 80 PVC Blank
45		SAA, iron oxide staining		1330 AS-1-46	1.5	17 22 42	2.5	45	Bentonite Chips
50		SAA		1345 AS-1-51.5	1	15 20 45	0	50	#3 Sand 2-inch Ceramic Diffuser
		Hole terminated at 51.5 feet.							
55								55	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**AS-2** PAGE 1 OF 2	
PROJECT NUMBER:			
DRILLING: STARTED 7/10/07	COMPLETED: 7/10/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/10/07	COMPLETED: 7/10/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY: Test America Drilling		GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT: Airknife/ CME-75		INITIAL DTW (ft): NE 7/10/07	BOREHOLE DEPTH (ft): 51.5
DRILLING METHOD: Hollow Stem Auger		STATIC DTW (ft): 42.3 7/11/07	WELL DEPTH (ft): 51.5
SAMPLING EQUIPMENT: CA Split Spoon		WELL CASING DIAMETER (in): 3/4	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			5"Asphalt							12-inch Well Box With Rebar Concrete
			Backfill Material: sandy and gravelly soil							
		ML	**SILT**; ML; very dark brown; low plasticity; soft; dry; slight odor; (0,10,80,10)							
7/10/07 Start: 1550			Air knifed to 5' bgs on 7/10/07		-			2.0		
5			SAA, fine to medium sand		1600 AS-2-6	1.5	14 15 27	0.8	5	Neat Cement Grout
10		ML	**CLAYEY SILT**; ML; olive; stiff; dry; slight odor; low to medium plasticity; (0,5,65,30)		1610 AS-2-11	1.5	13 23 32	23.4	10	3/4-inch SCH 80 PVC Blank
15		SM	**SILTY SAND**; SM; olive; fine-grained; dense; moist; moderate odor; (0,80,20,0)		1620 AS-2-16	1.5	15 32 50/3	2599	15	
20		ML	**SILT WITH SAND**; ML; olive brown; low plasticity; moist; strong odor; (0,20,70,10)		1625 AS-2-21	1.5	38 50/6	1162	20	
		SM	**SILTY SAND**; SM; dark yellowish brown; fine to coarse-grained; loose; dry; strong odor; (0,85,15,0)							
25		ML	**SILT**; ML; olive brown; low plasticity; very stiff; dry; moderate odor; (0,5,85,10)		-	1.5	15 36 40	152.2	25	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	
LOCATION:	1590 West 16th Street, Merced, CA	**AS-2** PAGE 2 OF 2	SECOR
PROJECT NUMBER:			
DRILLING: STARTED 7/10/07	COMPLETED: 7/10/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/10/07	COMPLETED: 7/10/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY:	Test America Drilling	GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT:	Airknife/ CME-75	INITIAL DTW (ft): NE 7/10/07	BOREHOLE DEPTH (ft): 51.5
DRILLING METHOD:	Hollow Stem Auger	STATIC DTW (ft): 42.3 7/11/07	WELL DEPTH (ft): 51.5
SAMPLING EQUIPMENT:	CA Split Spoon	WELL CASING DIAMETER (in): 3/4	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			SAA, weak HC odor; (0,10,90,0)		-	1.5	27 50/6	22.6		
35		SW CL	**SAND**; SW; gray; fine to coarse-grained; loose; wet; strong odor; well graded; (0,100,0,0) **SILTY LEAN CLAY**; CL; light olive; medium plasticity; very stiff; dry; slight odor; (0,0,30,70)		- -	1.5	10 28 30	15.8 17.6	35	Neat Cement Grout
40			SAA, HC staining, hard		-	1.5	20 28 30	24.0	40	3/4-inch SCH 80 PVC Blank
45			SAA, caliche nodules, iron oxide staining		1700 AS-2-45	1.5	18 35 47	17.0	45	Bentonite Chips
			SAA, no caliche		-	1.5	12 20 28	1.4		
			SAA		-	1.5	10 12 35	0.8		#3 Sand
50			SAA		1720 AS-2-50	1.5	11 15 20	0	50	2-inch Ceramic Diffuser
			Hole terminated at 51.5 feet.							
55									55	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-15

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.1			CT ATC-15/5		5	CL		silty CLAY with trace fine grained sand, slightly damp, 10YR 3/4 - dark yellowish brown, no HC ordor or staining.	7.5
0.1			CT ATC-15/10		10	SM		silty fine to medium grained SAND, dry, 10YR 4/4 - dark yellowish brown, no HC odor or staining.	13.0
0.3			CT ATC-15/15		15	ML		fine to medium grained sandy SILT with trace clay, dry, 10YR 5/3 - yellowish brown, no HC odor or staining.	17.0
						SM		silty fine grained SAND with trace clay, moist, 10YR 5/4 - yellowish brown, no HC odor or staining.	
0.0			CT ATC-15/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-16

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-16/5		5	ML		fine to medium grained sandy SILT with trace clay, dry, 10YR 4/4 - dark yellowish brown, no HC odor or staining.	
0.0			CT ATC-16/10		10				13.0
0.0			CT ATC-16/15		15	CL		silty CLAY with trace fine grained sand, slightly moist, 2.5Y 4/2 - dark grayish brown, no HC odor or staining.	17.0
						SM		silty fine grained SAND with trace clay, moist to very moist, 2.5Y 4/2 - dark grayish brown, no HC odor or staining.	
3.6			CT ATC-16/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-17

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3			CT ATC-17/5		5	CL		fine to medium grained sandy SILT with trace clay, dry, 10YR 3/3 - dark brown, no HC odor or staining.	7.0
						SM		silty fine to medium grained SAND, dry, 10YR 5/1 - gray, no HC odor or staining.	9.0
2.2			CT ATC-17/10		10	ML		fine to medium grained sandy SILT with trace clay, dry, 10YR 5/3 - yellowish brown, no HC odor or staining.	14.0
5.0			CT ATC-17/15		15	SM		silty fine grained SAND with trace clay, very moist, 10YR 5/4 - yellowish brown, HC odor and staining.	20.0
415			CT ATC-17/20		20			Bottom of borehole at 20.0 feet.	

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-18

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
25.1			CT ATC-18/5		5	CL		silty CLAY with trace fine grained sand, damp, 2.5Y 3/1 - very dark grey, HC odor and staining.	7.0
						SM		silty fine to medium grained SAND, dry, 2.5Y 4/2 - dark grayish brown, HC odor and staining.	9.0
6.3			CT ATC-18/10		10	ML		fine to medium grained sandy SILT with trace clay, dry, 2.5Y 3/2 - very dark grayish brown, HC odor and staining.	13.0
621			CT ATC-18/15		15	SP		poorly graded fine grained SAND with trace silt, very moist, 10YR 4/3 - brown, HC odor and staining.	20.0
505			CT ATC-18/20		20			Bottom of borehole at 20.0 feet.	

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-19

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
7.9			CT ATC-19/5		5	ML		fine to medium grained sandy SILT with trace clay, damp, 2.5Y 3/2 - very dark grayish brown, no HC odor or staining.	7.0
1285			CT ATC-19/10		10	SM		silty fine to medium grained SAND, dry, 2.5Y 4/2 - dark grayish brown, HC odor and staining.	14.0
365			CT ATC-19/15		15	CL		silty CLAY with trace fine grained sand, damp, 2.5Y 3/1 - very dark grey, HC odor and staining.	16.0
						SM		silty fine to medium grained SAND, moist, 2.5Y 4/2 - dark grayish brown, HC odor and staining.	
418			CT ATC-19/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-20

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/15/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/15/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.8			CT ATC-20/5		5	SP		fine to medium grained poorly graded SAND, damp, 10YR 4/3 - brown, no HC odor or staining.	
									8.0
						SM		silty fine to medium grained SAND, dry, 2.5Y 4/2 - dark grayish brown, no HC odor or staining.	
0.1			CT ATC-20/10		10			silty CLAY with trace fine grained sand, damp, 2.5Y 3/1 - very dark grey, HC odor and staining.	10.0
1043			CT ATC-20/15		15	CL		As above except moist.	
1469			CT ATC-20/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-21

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/15/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/15/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-21/5		5			fine grained sandy SILT, damp, 2.5Y 4/1 - dark grayish brown, no HC odor or staining.	
1.0			CT ATC-21/10		10	ML		Same as above except moist.	
									14.0
259			CT ATC-21/15		15	CL		silty CLAY with trace fine grained sand, slightly damp, 2.5Y 4/1 - dark gray, HC odor and staining.	
								Same as above except very moist.	
12.3			CT ATC-21/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-22

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/15/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/15/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2			CT ATC-22/5		5			clayey SILT, damp, 2.5Y 4/4 - olive brown, no HC odor or staining.	
						ML			
0.3			CT ATC-22/10		10				
									13.0
								silty CLAY with trace fine grained sand, slightly damp, 2.5Y 4/1 - dark gray, HC odor and staining.	
209			CT ATC-22/15		15	CL			
								Same as above except very moist and 2.5Y 4/3 - olive brown.	
									20.0
11			CT ATC-22/20		20			Bottom of borehole at 20.0 feet.	

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-23

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/15/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/15/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.1			CT ATC-23/5		5			fine grained sandy SILT, dry, 10YR 4/2 - dark grayish brown, no HC odor or staining.	
0.5			CT ATC-23/10		10	ML		Same as above except slightly damp.	
938			CT ATC-23/15		15			Same as above except HC odor and staining, 2.5Y 4/2 - dark grayish brown.	
1212			CT ATC-23/20		20			Same as above except moist to very moist. Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-24

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/15/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/15/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
22.1			CT ATC-24/5		5			silty CLAY, damp, 2.5 3/1 - very dark gray, HC odor and staining.	
64.7			CT ATC-24/10		10	CL		Same as above except slightly damp and trace fine grained sand.	
1681			CT ATC-24/15		15			Same as above.	
2193			CT ATC-24/20		20			Same as above except moist.	20.0
								Bottom of borehole at 20.0 feet.	

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-25

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/15/05
DATE COMPLETED 8/15/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
4.7			CT ATC-25/5		5	SM		silty fine to medium grained SAND with trace clay, dry, 2.5Y 3/1 - very dark gray, no HC odor or staining.	
								fine to medium grained sandy SILT with trace clay, dry, 2.5Y 3/1 - very dark gray, no HC odor or staining.	7.0
2.1			CT ATC-25/10		10	ML			
763			CT ATC-25/15		15			Same as above except HC odor and staining.	
						CL		silty CLAY with trace fine grained sand, moist to very moist, 2.5Y 3/1 - very dark grey, HC odor and staining.	16.0
438			CT ATC-25/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-26

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/16/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/16/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
7.9			CT ATC-26/5		5	ML		fine to medium grained sandy SILT with trace clay, dry, 2.5Y 3/1 - very dark gray, no HC odor or staining.	
83.9			CT ATC-26/10		10			Same as above except HC odor and staining.	12.0
718			CT ATC-26/15		15	CL		silty CLAY with trace fine grained sand, moist, 2.5Y 3/1 - very dark grey, HC odor and staining.	17.0
						SM		poorly graded fine to medium grained SAND with trace fine gravel, moist to very moist, 2.5Y 4/1 - dark gray, HC odor and staining.	
1290			CT ATC-26/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-27

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/16/05
DATE COMPLETED 8/16/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-27/5		5	ML		fine to medium grained sandy SILT with trace clay, dry, 2.5Y 3/1 - very dark gray, no HC odor or staining.	
2.6			CT ATC-27/10		10	CL		silty CLAY with trace fine grained sand, moist, 2.5Y 3/1 - very dark grey, HC odor and staining.	11.0
258			CT ATC-27/15		15	SM		poorly graded fine to medium grained SAND with trace fine gravel, moist to very moist, 2.5Y 4/1 - dark gray, HC odor and staining.	16.0
1470			CT ATC-27/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-28

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/16/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/16/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-28/5		5			fine grained sandy SILT, dry, 10YR 3/4 - dark yellowish brown, no HC odor or staining.	
0.0			CT ATC-28/10		10			Same as above except slightly damp.	
						ML		Same as above except HC odor and staining, 5Y 4/1 - dark gray.	
284			CT ATC-28/15		15				
708			CT ATC-28/20		20			Same as above except moist.	20.0
								Bottom of borehole at 20.0 feet.	

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-29

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/16/05
DATE COMPLETED 8/16/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-29/5		5			fine grained sandy SILT, dry, 10YR 3/4 - dark yellowish brown, no HC odor or staining.	
0.0			CT ATC-29/10		10	ML		Same as above except slightly damp.	
43			CT ATC-29/15		15			Same as above except HC odor and staining, 5Y 4/1 - dark gray.	
						SP		fine to medium grained poorly graded SAND, moist, 5Y 4/1 - dark gray, HC odor and staining.	18.0
106			CT ATC-29/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-30

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/16/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/16/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-30/5		5			fine grained sandy SILT, dry, 10YR 3/4 - dark yellowish brown, no HC odor or staining.	
0.2			CT ATC-30/10		10	ML		Same as above except slightly damp.	
614			CT ATC-30/15		15			Same as above except HC odor and staining, 5Y 4/1 - dark gray.	16.0
						SP		fine to medium grained poorly graded SAND, moist, 5Y 4/1 - dark gray, HC odor and staining.	
18.3			CT ATC-30/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-31

PROJECT NUMBER	Former Unocal Bulk Plant No. 0420	**DATE STARTED**	8/16/05
PROJECT NAME	Additional Assessment	**DATE COMPLETED**	8/16/05
LOCATION	1590 West 16th Street, Merced, CA	**CASING TYPE/DIAMETER**	----
DRILLING METHOD	Direct-Push	**SCREEN TYPE/SLOT**	----
SAMPLING METHOD	Continuous Core/Acetate Lined Sleeve	**GRAVEL PACK TYPE**	----
GROUND ELEVATION	--	**GROUT TYPE/QUANTITY**	----
TOP OF CASING	----	**DEPTH TO WATER**	--
LOGGED BY	NC	**GROUND WATER ELEVATION**	
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-31/5		5	SM		silty fine to medium grained SAND, damp, 10YR 4/4 - dark yellowish brown, no HC odor or staining.	
0.0			CT ATC-31/10		10				12.0
						ML		SILT, damp, 2.5Y - olive brown, no HC odor or staining.	14.0
0.0			CT ATC-31/15		15	SP		medium grained poorly graded SAND, moist, 2.5Y 4/3 - olive brown, no HC odor or staining.	
0.0			CT ATC-31/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-32

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/16/05
DATE COMPLETED 8/16/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.0			CT ATC-33/5		5	ML		fine to medium grained sandy SILT, slightly damp, 2.5Y 4/3 - olive brown, no HC odor or staining.	
									9.0
0.0			CT ATC-33/10		10	SM		silty fine to medium grained SAND, slightly damp, 2.5Y 4/3 - olive brown, no HC odor or staining.	
									14.0
4.1			CT ATC-33/15		15	ML		SILT with trace clay, damp, 5Y 4/1 - dark gray, no HC odor or staining.	
0.2			CT ATC-33/20		20			Bottom of borehole at 20.0 feet.	20.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

BORING NUMBER ATC-33

PROJECT NUMBER Former Unocal Bulk Plant No. 0420
PROJECT NAME Additional Assessment
LOCATION 1590 West 16th Street, Merced, CA
DRILLING METHOD Direct-Push
SAMPLING METHOD Continuous Core/Acetate Lined Sleeve
GROUND ELEVATION --
TOP OF CASING ----
LOGGED BY NC
REMARKS

DATE STARTED 8/16/05
DATE COMPLETED 8/16/05
CASING TYPE/DIAMETER ----
SCREEN TYPE/SLOT ----
GRAVEL PACK TYPE ----
GROUT TYPE/QUANTITY ----
DEPTH TO WATER --
GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.0			CT ATC-32/5		5	SM		silty fine to medium grained SAND, dry, 2.5Y - olive brown, no HC odor or staining.	
0.0			CT ATC-32/10		10			Bottom of borehole at 10.0 feet.	10.0

BORING/WELL CONSTRUCTION 0875_MERCED_BOREHOLE LOGS.GPJ ATC WELL.GDT 10/13/05

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-15** PAGE 1 OF 1

DRILLING: STARTED **7/13/09** COMPLETED: **7/13/09**
INSTALLATION: STARTED **7/13/09** COMPLETED: **7/13/09**
DRILLING COMPANY: **Gregg Drilling**
DRILLING EQUIPMENT: **Hand Auger/ MARL 2.5M DP**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **4' Core Barrel**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE 7/13/09** BOREHOLE DEPTH (ft): **15**
STATIC DTW (ft): **NE 7/13/09** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **Richard Peltier** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
		ML	**SILT** ; ML; 10YR 4/4 dark yellowish brown; low plasticity; soft; dry; no odor; (0,0,90,10)		-			0		
			Hand augered to 5'							
5			Similar as above (SAA); (0,10,80,10)		0950 BH-15-6	3		0	5	
			SAA; caliche							Neat Cement Grout
10		ML	**SANDY SILT** ; ML; 10YR 6/6 brownish yellow; low plasticity; stiff; dry; no odor; fine sand; (0,30,70,0)		-	4		0	10	
		ML	**SILT** ; ML; 10YR 4/4 dark yellowish brown; low plasticity; stiff; dry; no odor; (0,10,80,10)		1000 BH-15-15	3		0		
15			Hole terminated at 15 feet.						15	

GEO FORM 304 0420 BH-15 AND BH-16.GPJ SECOR INTL.GDT 8/20/09

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-16** PAGE 1 OF 1

DRILLING: STARTED **7/13/09** COMPLETED: **7/13/09**
INSTALLATION: STARTED **7/13/09** COMPLETED: **7/13/09**
DRILLING COMPANY: **Gregg Drilling**
DRILLING EQUIPMENT: **Hand Auger/ MARL 2.5M DP**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **4' Core Barrel**

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **NE 7/13/09** BOREHOLE DEPTH (ft): **15**
STATIC DTW (ft): **NE 7/13/09** WELL DEPTH (ft): **---**
WELL CASING DIAMETER (in): **---** BOREHOLE DIAMETER (in): **2.25**
LOGGED BY: **Richard Peltier** CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			AB Gravel							
		ML	**SILT WITH SAND** ; ML; 7.5YR 3/2 dark brown; low plasticity; soft; dry; no odor; (0,20,80,0)		-			0		
		ML	**SILT** ; ML; 10YR 4/4 dark yellowish brown; low plasticity; soft; dry; no odor; (0,10,80,10)							
			Hand augered to 5'							
5			SAA		1100 BH-16-6	3		0	5	
			SAA							Neat Cement Grout
		ML	**SILT WITH SAND** ; ML; 10YR 6/6 brownish yellow; low plasticity; stiff; dry; no odor; (0,20,80,0)			4				
10					-			0	10	
			SAA; caliche							
		SM	**SILTY SAND** ; SM; 10YR 6/6 brownish yellow; fine-grained; medium dense; dry; no odor; (0,60,40,0)			3				
		ML	**SILT** ; ML; 10YR 4/4 dark yellowish brown; low plasticity; stiff; dry; (0,10,80,10)		1110 BH-16-15			0		
15			Hole terminated at 15 feet.						15	

GEO FORM 304 0420 BH-15 AND BH-16.GPJ SECOR INTL.GDT 8/20/09

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-17** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/9/09** COMPLETED: **11/10/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **3**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			AB Gravel							
		ML	**SILT** ; ML; brown; non plastic; soft; dry; no odor; (0,10,90,0)		11-9-09 1025 BH-17-1	.5				
			Similar as above (SAA); stiff; (0,0,100,0)							
			Air knifed to 5' on 11-9-09							
5					11-9-09 1030 BH-17-5	.5			5	Bentonite Grout
			SAA; (0,10,90,0)							
10			Borehole terminated at 10 feet.		11-10-09 1645 BH-17-10	.5		1.0	10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-18** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/9/09** COMPLETED: **11/9/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
WELL DEPTH (ft): **10.0**
STATIC DTW (ft): **NE**
BOREHOLE DEPTH (ft): **10.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			5" Asphalt							Asphalt
			Backfill Material: Cobbles; concrete fragments; soil							
		ML	**SILT** ; ML; very dark brown; low plasticity; soft; dry; no odor; (0,0,80,20)		1430 BH-18-3	.5				
			Air knifed to 5' on 11-9-09							
5					1434 BH-18-5	.5			5	Construction sand
			SAA; olive; slight HC odor							
10			Borehole terminated at 10 feet.		1500 BH-18-10	.5			10	
					1435 BH-18ABCD (composite)					

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-19** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/9/09** COMPLETED: **11/9/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
WELL DEPTH (ft): **10.0**
STATIC DTW (ft): **NE**
BOREHOLE DEPTH (ft): **10.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			5" Asphalt							Asphalt
			Backfill Material: Cobbles and soil							
		ML	**SILT** ; ML; dark brown; low plasticity; soft; dry; no odor; (0,0,80,20)		1520 BH-19-1	.5				
			Air knifed to 5' on 11-9-09							
5			SAA; stiff; (0,10,80,10)		1530 BH-19-5	.5			5	Construction sand
			SAA; olive; slight HC odor							
10			Borehole terminated at 10 feet.		1600 BH-19-10	.5			10	
					1535 BH-19ABCD (composite)					

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-20** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/10/09** COMPLETED: **11/10/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **3**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			5" Asphalt							Asphalt
			AB Gravel							
		ML	**SILT** ; ML; dark brown; low plasticity; soft; dry; no odor; (0,0,80,20)							
			SAA; stiff							
			Air knifed to 5' on 11-10-09							
5					-			1.6	5	Construction sand
			SAA; olive; slight HC odor; (0,10,90,0)							
10			Borehole terminated at 10 feet.		-			26.3	10	
					0810 BH-20ABCD (composite)					

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-21** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/10/09** COMPLETED: **11/10/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **3**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			5" Asphalt							Asphalt
			AB Gravel							
		ML	**SILT** ; ML; dark brown; low plasticity; soft; dry; no odor; (0,0,80,20)							
			Air knifed to 5' on 11-10-09							
5			SAA; stiff; (0,10,90,0)		-			2.5	5	Construction sand
			SAA; olive							
					-			2.7		
10			Borehole terminated at 10 feet.						10	
					0925 BH-21ABCD (composite)					

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-22** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/10/09** COMPLETED: **11/10/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **3**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			12" Asphalt							Asphalt
		ML	**SILT** ; ML; dark brown; low plasticity; stiff; dry; no odor; (0,0,80,20)							
5			SAA; brown; (0,10,80,10)						5	Construction sand
10			Borehole terminated at 10 feet.		1140 BH-22ABCD (composite)				10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO:
BH-23 PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/10/09** COMPLETED: **11/10/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife**
DRILLING METHOD: **Hand Auger**
SAMPLING EQUIPMENT: **Hand Auger**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
WELL DEPTH (ft): **5.0**
STATIC DTW (ft): **NE**
BOREHOLE DEPTH (ft): **5.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			AB Gravel and soil							
		ML	**SILT** ; ML; very dark brown; stiff; dry; no odor; (0,0,80,20)		1450 BH-23-1	.5				
			SAA; dark brown; (0,10,80,10)		1455 BH-23-5	.5				Construction sand
5			Unable to advance deeper due to fence line and irrigation line. Borehole terminated at 5 feet.						5	
10									10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-24** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/12/09** COMPLETED: **11/12/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			12" Asphalt							
		ML	**SILT** ; ML; very dark brown; low plasticity; very stiff; dry; no odor; (0,0,80,20)		11-10-09 1535 BH-24-1	.5		1.6		
			SAA; brown; no plasticity; stiff; (0,10,90,0)							
			Air knifed to 5' on 11-10-09		1545 BH-24-5	.5		1.0		
5									5	Bentonite Grout
			SAA; olive; slight HC odor; caliche			1.5	12 30 40			
					11-12-09 1035 BH-24-10			9.1		
10			Borehole terminated at 10 feet.						10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-25** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/12/09** COMPLETED: **11/12/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			12" Asphalt							
		ML	**SILT** ; ML; very dark brown; low plasticity; very stiff; dry; no odor; (0,0,80,20)		11-10-09 1635 BH-25-1	.5		7.0		
			SAA; brown; stiff; (0,10,80,10)							
			Air knifed to 5' on 11-10-09							
5		ML	**SILT WITH SAND** ; ML; olive brown; low plasticity; stiff; dry; (0,25,65,10)		11-12-09 1115 BH-25-5	1.5	9 29 32	3.0	5	Bentonite Grout
			SAA; olive; very stiff; slight HC odor; caliche; (0,20,70,10)		1120 BH-25-10	1.5	29 43 50/6	271		
10			Borehole terminated at 10 feet.						10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-26** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/12/09** COMPLETED: **11/12/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			12" Asphalt							
		ML	**SILT** ; ML; very dark brown; low plasticity; stiff; dry; no odor; (0,10,70,20)		11-11-09 0808 BH-26-1	.5		0.2		
			SAA; dark brown; (0,10,80,10)							
			Air knifed to 5' on 11-11-09							
5		ML	**SILT WITH SAND** ; ML; olive brown; low plasticity; soft; dry; (0,25,65,10)		11-12-09 1050 BH-26-5	1.5	12 6 7	1.0	5	Bentonite Grout
			SAA; olive; very stiff; slight HC odor; caliche; (0,20,70,10)		1055 BH-26-10	1.5	10 35 45	4.6		
10			Borehole terminated at 10 feet.						10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-27** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/13/09** COMPLETED: **11/13/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			6" Asphalt							Concrete
			Backfill Material: AB Gravel							
		ML	**SILT** ; ML; very dark brown; low plasticity; stiff; dry; no odor; (0,10,70,20)		11-11-09 0920 BH-27-1	.5		0.4		
			SAA; brown; (0,10,80,10)							
			Water knifed to 5' on 11-11-09							
5			SAA		11-13-09 0820 BH-27-5	1.5	9 19 30	0.4	5	Bentonite Grout
			SAA; hard							
			SAA; olive brown		0825 BH-27-9	1	30 50/6	0.2		
10			Borehole terminated at 10 feet.						10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO:
BH-28 PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/13/09** COMPLETED: **11/13/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			6" Asphalt							Concrete
			Backfill Material: AB Gravel							
		ML	**SILT** ; ML; very dark brown; low plasticity; stiff; dry; no odor; (0,10,70,20)		11-11-09 0945 BH-28-1	.5		0		
			SAA; brown; (0,10,80,10)							
			Water knifed to 5' on 11-11-09							
5			SAA		11-13-09 0755 BH-28-6	1	19 30 33	0	5	Bentonite Grout
			SAA; dark brown; hard			1.5	19 45 50/3			
10			Borehole terminated at 10 feet.		0800 BH-28-10			0.2	10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-29** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/13/09** COMPLETED: **11/13/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			6" Asphalt							Concrete
			Backfill Material: AB Gravel							
		ML	**SILT** ; ML; very dark brown; low plasticity; stiff; dry; no odor; (0,10,70,20)		11-11-09 1000 BH-29-1	.5		0		
			SAA; brown; (0,10,80,10)							
			Water knifed to 5' on 11-11-09							
5			SAA; hard; (0,10,70,20)		11-13-09 0845 BH-29-5	1	20 50/6	0.2	5	Bentonite Grout
			SAA; very stiff			1.5	15 17 26			
10			Borehole terminated at 10 feet.		0850 BH-29-10			0.4	10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-30** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/13/09** COMPLETED: **11/13/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			5" Asphalt							Concrete
			Backfill Material: Cobbles and soil							
		ML	**SILT** ; ML; dark brown; low plasticity; soft; dry; no odor; (0,10,70,20)		11-11-09 1140 BH-30-1	.5		0		
			SAA; brown							
			Water knifed to 5' on 11-11-09							
5			SAA; hard		11-13-09 1020 BH-30-5	1	14 50/5	0.2	5	Bentonite Grout
			SAA; caliche			1.5	57 50/6			
		ML	**SANDY SILT** ; ML; olive; low plasticity; stiff; dry; slight HC odor; (0,40,60,0)		1025 BH-30-10			50.4		
10			Borehole terminated at 10 feet.						10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **BH-31** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **11/12/09** COMPLETED: **11/12/09**
DRILLING COMPANY: **TestAmerica Drilling**
DRILLING EQUIPMENT: **Water Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIA. (in): **---**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **10.0**
BOREHOLE DEPTH (ft): **10.0**
BOREHOLE DIA. (in): **8**
CHECKED BY: **Mark P. Bare**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			Fill Material: AB Gravel and soil							
		ML	**SILT** ; ML; very dark brown; low plasticity; soft; dry; no odor; (0,10,70,20)		11-11-09 1335 BH-31-1	.5		0.2		
			SAA; brown; (0,10,80,10)							
			Water knifed to 5' on 11-11-09							
5		ML	**SILT WITH SAND** ; ML; brown; low plasticity; hard; no odor; caliche; (0,25,65,10)		11-12-09 1155 BH-31-5	1.5	32 50/6	0	5	Bentonite Grout
			SAA; stiff; (0,20,70,10)			1.5	29 47 49			
10			Borehole terminated at 10 feet.		1200 BH-31-10			0	10	

GEO FORM 304 0420 BH-17 TO BH-31.GPJ STANITEC ENVIRO TEMPLATE 010509.GDT 3/18/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **BH-32** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **6/21/10** COMPLETED: **6/21/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Hand Auger**
DRILLING METHOD:
SAMPLING EQUIPMENT:

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft):N/A
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **5.0**
WELL CASING DIA. (in): **---**
BOREHOLE DIA. (in): **3**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Borehole Backfill
			6" Asphalt							Asphalt
			Fill Material: Gravelly and sandy soil							
		ML	**SILT** ; ML; very dark brown; low plasticity; soft; dry; no odor; (0,10,80,10)			4				Native Backfill
5			Borehole terminated at 5 feet.		1110 BH-32-5			13.2	5	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**MW-14** PAGE 1 OF 3	
PROJECT NUMBER:			
DRILLING: STARTED 7/12/07	COMPLETED: 7/12/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/12/07	COMPLETED: 7/12/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY: Test America Drilling		GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT: Airknife/ CME-75		INITIAL DTW (ft): 53 7/12/07	BOREHOLE DEPTH (ft): 71.5
DRILLING METHOD: Hollow Stem Auger		STATIC DTW (ft): 43 7/12/07	WELL DEPTH (ft): 71.5
SAMPLING EQUIPMENT: CA Split Spoon		WELL CASING DIAMETER (in): 2	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
		Backfill Material: Sand and 2" gravel, compacted.						
	SM	**SILTY SAND**; SM; brown; fine-grained; loose; dry; (0,60,40,0)						
7/12/07 Start: 0930		Air knifed to 5' bgs on 7-9-07						
5		Similar as above (SAA), rounded fine-grained gravel, (15,70,15,0)				16		5
	ML	**SILT**; ML; dark brown; low plasticity; soft; dry; no odor; (0,10,80,10)		-	1.5	18 23	0	
10	ML	**SILT WITH SAND**; ML; brown; low plasticity; soft to stiff; dry; no odor; caliche nodules, (0,25,75,0)		-	1.5	12 20 23	0	10
15	SP	**SAND**; SP; brown; fine-grained; loose; dry; no odor; poorly graded; (0,100,0,0)		-	1.5	15 17 18	0	15
20	ML	**SILT WITH SAND**; ML; light brown with olive; low plasticity; stiff; dry; no odor; mottled olive, fine to medium-grained sand, (0,20,75,5)		-	1.5	10 50/5	0	20
25	ML	**SILT WITH SAND AND CLAY**; ML; brown; low plasticity; very stiff; dry; no odor; (0,20,60,20)		-	1.5	25 50/6	0	25

Well Construction:
- 12-inch Well Box Concrete
- Neat Cement Grout
- 2-inch SCH 40 PVC Blank

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: Former Unocal Bulk Plant #0420
LOCATION: 1590 West 16th Street, Merced, CA
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **MW-14** PAGE 2 OF 3

SECOR

DRILLING: STARTED 7/12/07 COMPLETED: 7/12/07
INSTALLATION: STARTED 7/12/07 COMPLETED: 7/12/07
DRILLING COMPANY: Test America Drilling
DRILLING EQUIPMENT: Airknife/ CME-75
DRILLING METHOD: Hollow Stem Auger
SAMPLING EQUIPMENT: CA Split Spoon

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): 53 7/12/07 BOREHOLE DEPTH (ft): 71.5
STATIC DTW (ft): 43 7/12/07 WELL DEPTH (ft): 71.5
WELL CASING DIAMETER (in): 2 BOREHOLE DIAMETER (in): 8
LOGGED BY: Richard Peltier CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		CL	**SILTY LEAN CLAY**; CL; light olive; medium plasticity; very stiff; dry; no odor; (0,0,30,70)		-	1.5	17 29 32	0		
35			SAA, olive		-	1.5		0	35	Neat Cement Grout
40		CL	**LEAN CLAY**; CL; olive; medium plasticity; very stiff; dry; no odor; (0,0,10,90)		-	1.5	24 26 28	0	40	2-inch SCH 40 PVC Blank
45			SAA		-	1.5	15 15 30	0	45	
50			SAA		-	1.5	15 25 30	0	50	
			Driller reports water @53'							
55			SAA, moist, soft						55	
		SP	**SAND**; SP; olive; fine to medium-grained; medium dense; wet; no odor; 80% fine 20% medium-grained sand; micaceous; (0,90,5,5)		-	1.5	15 15 28	0		Coated Bentonite Pellets

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**MW-14** PAGE 3 OF 3	
PROJECT NUMBER:			
DRILLING: STARTED 7/12/07	COMPLETED: 7/12/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/12/07	COMPLETED: 7/12/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY:	Test America Drilling	GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT:	Airknife/ CME-75	INITIAL DTW (ft): 53 7/12/07	BOREHOLE DEPTH (ft): 71.5
DRILLING METHOD:	Hollow Stem Auger	STATIC DTW (ft): 43 7/12/07	WELL DEPTH (ft): 71.5
SAMPLING EQUIPMENT:	CA Split Spoon	WELL CASING DIAMETER (in): 2	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		SP	SAA, fine-grained sand, saturated		-	1.5	16 24 27	0		
65			SAA, dense		-	1.5	29 50/4	0	65	#2/12 Sand 2-inch SCH 40 PVC 0.020 Slotted Screen
70			SAA						70	
		SC	**CLAYEY SAND**; SC; olive; fine-grained; dense; saturated; no odor; micaceous; (0,70,5,25)		-	1.5	25 50/2	0		Threaded End Cap
			Hole terminated at 71.5 feet.							
75									75	
80									80	
85									85	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**MW-15** PAGE 1 OF 2	
PROJECT NUMBER:			
DRILLING: STARTED 7/12/07	COMPLETED: 7/12/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/12/07	COMPLETED: 7/12/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY:	Test America Drilling	GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT:	Airknife/ CME-75	INITIAL DTW (ft): NE 7/12/07	BOREHOLE DEPTH (ft): 50.0
DRILLING METHOD:	Hollow Stem Auger	STATIC DTW (ft): 43 7/12/07	WELL DEPTH (ft): 50.0
SAMPLING EQUIPMENT:	CA Split Spoon	WELL CASING DIAMETER (in): 2	BOREHOLE DIAMETER (in): 8
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			Backfill Material: Sand and 2" gravel, compacted.							12-inch Well Box Concrete
		SM	**SILTY SAND**; SM; brown; fine-grained; loose; dry; (0,60,40,0)							
7/12/07 Start: 1545			Air knifed to 5 ' bgs on 7-9-07							
5			SAA, rounded fine-grained gravel; medium dense; (15,70,15,0)				10 12 15		5	Neat Cement Grout
		ML	**SILT**; ML; dark brown; low plasticity; soft; dry; no odor; (0,10,80,10)			1.5				
10		ML	**SILT WITH SAND**; ML; brown; low plasticity; soft to stiff; dry; no odor; caliche nodules; (0,25,75,0)			1.5			10	2-inch SCH 40 PVC Blank
15			Not sampled due to proximity to MW-14 located 5' away. Refer to MW-14 log.						15	
20									20	
25									25	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: Former Unocal Bulk Plant #0420
LOCATION: 1590 West 16th Street, Merced, CA
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **MW-15** PAGE 2 OF 2

SECOR

DRILLING: STARTED 7/12/07 COMPLETED: 7/12/07
INSTALLATION: STARTED 7/12/07 COMPLETED: 7/12/07
DRILLING COMPANY: Test America Drilling
DRILLING EQUIPMENT: Airknife/ CME-75
DRILLING METHOD: Hollow Stem Auger
SAMPLING EQUIPMENT: CA Split Spoon

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): NE 7/12/07 BOREHOLE DEPTH (ft): 50.0
STATIC DTW (ft): 43 7/12/07 WELL DEPTH (ft): 50.0
WELL CASING DIAMETER (in): 2 BOREHOLE DIAMETER (in): 8
LOGGED BY: Richard Peltier CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
35									35	Bentonite Chips
40									40	#2/12 Sand
45									45	2-inch SCH 40 PVC 0.020 Slotted Screen
50			Hole terminated at 50 feet.						50	Screwed End Cap
55									55	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: Former Unocal Bulk Plant #0420
LOCATION: 1590 West 16th Street, Merced, CA
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **VE-1** PAGE 1 OF 2

SECOR

DRILLING: STARTED 7/11/07 COMPLETED: 7/11/07
INSTALLATION: STARTED 7/11/07 COMPLETED: 7/11/07
DRILLING COMPANY: Test America Drilling
DRILLING EQUIPMENT: Airknife/ CME-75
DRILLING METHOD: Hollow Stem Auger
SAMPLING EQUIPMENT: CA Split Spoon

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): NE 7/11/07 BOREHOLE DEPTH (ft): 36.5
STATIC DTW (ft): NE 7/12/07 WELL DEPTH (ft): 36.5
WELL CASING DIAMETER (in): 4 BOREHOLE DIAMETER (in): 10
LOGGED BY: Richard Peltier CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
			1" AB Limestone gravel					
			Backfill Material: soil, cemented sand, concrete and aspalt fragments					
		ML	**SILT**; ML; brown; low plasticity; soft; dry; no odor; (0,10,90,0)					
7/11/07 Start: 1020			Air knifed to 5' bgs on 7/9/07					
5			SAA, stiff		-		9	0
					1035 VE-1-6	1.5	25 32	0
10		ML	**SILT WITH SAND**; ML; dark brown; low plasticity; stiff; dry; strong odor; (0,20,70,10)		1040 VE-1-11	1.5	13 15 18	1388
15			SAA; brown; (0,15,75,10)		1050 VE-1-16	1.5	11 12 13	3002
		SM	**SILTY SAND**; SM; olive; fine to medium-grained; medium dense; moist; strong odor; (0,80,20,0)					
20			SAA, dark yellowish brown; dry; dense; (0,55,45,0)		1120 VE-1-20	1.5	25 50/6	237
25		ML	**SILT WITH SAND AND CLAY**; ML; dark brown; low plasticity; very stiff; dry; strong odor; hydrocarbon staining; (0,20,60,20)		1128 VE-1-26	1.5	15 25 32	838
		SM	**SILTY SAND**; SM; light olive brown; fine to medium-grained; medium dense; dry; strong odor; (0,80,20,0)					

Well Construction

- 12-inch Well Box With Rebar Concrete
- Neat Cement Grout
- 2-inch SCH 40 PVC Blank
- Bentonite Chips
- #2/12 Sand
- 2-inch SCH 40 PVC 0.020 Slotted Screen

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: Former Unocal Bulk Plant #0420
LOCATION: 1590 West 16th Street, Merced, CA
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **VE-1** PAGE 2 OF 2

SECOR

DRILLING: STARTED 7/11/07 COMPLETED: 7/11/07
INSTALLATION: STARTED 7/11/07 COMPLETED: 7/11/07
DRILLING COMPANY: Test America Drilling
DRILLING EQUIPMENT: Airknife/ CME-75
DRILLING METHOD: Hollow Stem Auger
SAMPLING EQUIPMENT: CA Split Spoon

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): NE 7/11/07 BOREHOLE DEPTH (ft): 36.5
STATIC DTW (ft): NE 7/12/07 WELL DEPTH (ft): 36.5
WELL CASING DIAMETER (in): 4 BOREHOLE DIAMETER (in): 10
LOGGED BY: Richard Peltier CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		CL	**SILTY LEAN CLAY**; CL; light olive; medium plasticity; very stiff; dry; strong odor; (0,0,30,70)		1135 VE-1-30	1.5	15 20 30	1372		
		SC	**CLAYEY SAND**; SC; light olive; fine-grained; medium dense; dry; strong odor; (0,70,0,30)							
35		CL	**SILTY LEAN CLAY**; CL; SAA		1150 VE-1-36	1.5	15 23 26	10.1	35	Threaded End Cap
			Hole terminated at 36.5 feet.							
40									40	
45									45	
50									50	
55									55	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT:	Former Unocal Bulk Plant #0420	WELL / PROBEHOLE / BOREHOLE NO:	SECOR
LOCATION:	1590 West 16th Street, Merced, CA	**VE-2** PAGE 1 OF 2	
PROJECT NUMBER:			
DRILLING: STARTED 7/11/07	COMPLETED: 7/11/07	NORTHING (ft):	EASTING (ft):
INSTALLATION: STARTED 7/11/07	COMPLETED: 7/11/07	LATITUDE:	LONGITUDE:
DRILLING COMPANY: Test America Drilling		GROUND ELEV (ft):	TOC ELEV (ft):
DRILLING EQUIPMENT: Airknife/ CME-75		INITIAL DTW (ft): NE 7/11/07	BOREHOLE DEPTH (ft): 36.5
DRILLING METHOD: Hollow Stem Auger		STATIC DTW (ft): NE 7/12/07	WELL DEPTH (ft): 36.5
SAMPLING EQUIPMENT: CA Split Spoon		WELL CASING DIAMETER (in): 4	BOREHOLE DIAMETER (in): 10
		LOGGED BY: Richard Peltier	CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			5" Asphalt							12-inch Well Box With Rebar Concrete
			Backfill Material: sandy and gravelly soil							
		ML	**SILT**; ML; very dark brown; low plasticity; soft; dry; slight odor; (0,10,80,10)							Neat Cement Grout
7/11/07 Start: 1400			Air knifed to 5' bgs on 7/10/07							2-inch SCH 40 PVC Blank
5			SAA, dark grayish brown		1408 VE-2-6	1.5	4 25 45	2.8	5	Bentonite Chips
10			SAA; strong HC odor		1415 VE-2-11	1.5	7 11 15	473	10	
15		SW	**SAND**; SW; grayish brown; fine to coarse-grained; loose to medium dense; moist; strong odor; well graded; (0,95,5,0)		1420 VE-2-16	1.5	17 24 34	494	15	
		ML	**CLAYEY SILT**; ML; blueish gray; low plasticity; stiff; dry; strong odor; hydrocarbon staining; (0,0,70,30)							
20		SM	**SILTY SAND**; SM; dark yellowish brown; fine-grained; dense; dry; strong odor; weak cementation; (0,55,45,0)		1430 VE-2-20	1	27 50/5	2966	20	#2/12 Sand
										2-inch SCH 40 PVC 0.020 Slotted Screen
25		ML	**CLAYEY SILT**; ML; dark brown; low plasticity; stiff; dry; HC odor; (0,0,70,30)		1440 VE-2-26	1.5	15 21 29	37.6	25	
		SM	**SILTY SAND**; SM; dark yellowish brown; fine-grained; loose; dry; slight odor; (0,70,30,0)							
		ML	**SANDY SILT**; ML; olive brown; low plasticity; stiff; dry; (0,30,70,0)							

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: Former Unocal Bulk Plant #0420
LOCATION: 1590 West 16th Street, Merced, CA
PROJECT NUMBER:

WELL / PROBEHOLE / BOREHOLE NO: **VE-2** PAGE 2 OF 2

SECOR

DRILLING: STARTED 7/11/07 COMPLETED: 7/11/07
INSTALLATION: STARTED 7/11/07 COMPLETED: 7/11/07
DRILLING COMPANY: Test America Drilling
DRILLING EQUIPMENT: Airknife/ CME-75
DRILLING METHOD: Hollow Stem Auger
SAMPLING EQUIPMENT: CA Split Spoon

NORTHING (ft): EASTING (ft):
LATITUDE: LONGITUDE:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): NE 7/11/07 BOREHOLE DEPTH (ft): 36.5
STATIC DTW (ft): NE 7/12/07 WELL DEPTH (ft): 36.5
WELL CASING DIAMETER (in): 4 BOREHOLE DIAMETER (in): 10
LOGGED BY: Richard Peltier CHECKED BY: Ed Simonis

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		CL	**SILTY LEAN CLAY**; CL; light olive; medium plasticity; very stiff; dry; slight odor; thin root casts; (0,0,30,70)		1450 VE-2-31	1.5	15 21 25	15.0		
35			SAA; HC staining; no root casts		1515 VE-2-36	1.5	12 17 19	4.0	35	Threaded End Cap
			Hole terminated at 36.5 feet.							
40									40	
45									45	
50									50	
55									55	

GEO FORM 304 0420 MW-14, MW-15, AS-1, AS-2, VE-1, VE-2.GPJ SECOR INTL.GDT 10/17/07

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-3** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **6/25/10** COMPLETED: **6/25/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **2**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **35.0**
BOREHOLE DEPTH (ft): **35.0**
BOREHOLE DIA. (in): **10**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			Asphalt							24" Well Vault
		ML	**SILT WITH SAND** ; ML; brown; low plasticity; soft; dry; no odor; (0,15,85,0)							
5			Air knifed to 5' on 6/21/10 SAA; olive brown; very stiff; iron oxide staining; weak cementation		- 1020 VE-3-6	1.5	7 10 10	2.4 2.4	5	Neat Cement Grout
		ML	**SILT** ; ML; olive brown; low plasticity; very stiff; dry; no odor; iron oxide staining; weak cementation; caliche; (0,5,95,0)		1025 VE-3-10	1.5	5 7 9	4.8	10	2" SCH 40 PVC Blank Casing
10										Bentonite Chips
15		SM	**SILTY SAND** ; SM; dark olive; fine-grained; medium dense; dry; strong HC odor; hydrocarbon staining; (0,60,40,0)		1030 VE-3-14.5	1	3 6 8	3512	15	
		ML	**SANDY SILT** ; ML; brownish red; non-plastic; stiff; dry; strong HC odor; (0,45,55,0)		1035 VE-3-19.5	1	6 8 15	303	20	
20			SAA; brown; slight HC odor; HC staining							#3 Sand
		SM ML	**SILTY SAND** ; SM; olive; fine-grained; dense; dry; (0,60,40,0)		1040	1.5	5 9 14	66.1		

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-3** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **6/25/10** COMPLETED: **6/25/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **35.0**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **35.0**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **10**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		ML	**SILT WITH SAND** ; ML; olive; non-plastic; stiff; (0,25,75,0)		VE-3-25					
			SAA; dry; slight HC odor		1045 VE-3-30	1.5	4 6 11	24.4		
30		SP	**POORLY GRADED SAND** ; SP; light gray; fine-grained; loose; dry; slight HC odor; (0,100,0,0)						30	2" SCH 40 PVC 0.020" Slot Screen
		ML	**SILT WITH SAND** ; ML; Similar to 30' sample			1.5	4 7 10	22.0		
35		CL	**SILTY LEAN CLAY** ; CL; light olive; medium plasticity; very stiff; dry; (0,0,30,70)		1055 VE-3-35				35	Threaded End Cap
			Borehole terminated at 35 feet.							
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-4** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **6/25/10** COMPLETED: **6/25/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **2**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **35.0**
BOREHOLE DEPTH (ft): **35.0**
BOREHOLE DIA. (in): **10**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			Asphalt							24" Well Vault
		ML	**SILT** ; ML; brown; low plasticity; soft; dry; no odor; (0,15,85,0)							
			Air knifed to 5' on 6/21/10							
5			SAA; (0,5,85,10)		-	.5	1 2 3	0.0	5	Neat Cement Grout
			SAA; dark brown							2" SCH 40 PVC Blank Casing
10			SAA; brown and olive; angular coarse sand and fine gravel; metal tin; possible fill; (10,10,70,10)		0730 VE-4-10	1.5	3 5 6	0.0	10	
		SM	**SILTY SAND** ; SM; olive; fine-grained; medium dense; dry; slight HC odor; (0,60,40,0)		0735 VE-4-15	1.5	3 6 9	129.7	15	Bentonite Chips
20		ML	**SANDY SILT** ; ML; olive brown; low plasticity; stiff; dry; moderate HC odor; blue HC staining; (0,30,60,10)		0740 VE-4-20	1.5	3 8 9	78.3	20	
		ML	**SILT** ; ML; olive and grayish brown; low plasticity; stiff; dry; (0,0,80,20)							
		ML	**SANDY SILT** ; ML; brown and grayish olive; non-plastic; dry; (0,40,60,0)		0745	1.5	5 7 10	22.0		#3 Sand
		ML								

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-4** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **6/25/10** COMPLETED: **6/25/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **2**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **35.0**
BOREHOLE DEPTH (ft): **35.0**
BOREHOLE DIA. (in): **10**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		ML	**SILT** ; ML; Similar to 24' sample		VE-4-25					
			SAA; light olive; no odor; weak cementation			1.5	3 7 12			
30		SM	**SILTY SAND** ; SM; light olive brown; fine-grained; medium dense; dry; no odor; (0,60,40,0)		0755 VE-4-30			4.8	30	2" SCH 40 PVC 0.020" Slot Screen
			SAA; brown; moist; (0,70,30,0)							
			SAA; light gray; dry; (0,85,15,0)			1.5	3 7 9			
35			SAA; olive brown; (0,75,25,0)		0805 VE-4-35			7.3	35	Threaded End Cap
			Borehole terminated at 35 feet.							
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-5** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **6/24/10** COMPLETED: **6/24/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **35.0**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **35.0**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **10**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			Asphalt							24" Well Vault
			Excavation Backfill: Silty Sand							Neat Cement Grout
										2" SCH 40 PVC Blank
										Bentonite Chips
5		ML	**SILT** ; ML; blueish olive; low plasticity; dry; strong HC odor; hydrocarbon staining; from cuttings; (0,10,80,10)						5	
										#3 Sand
										2" SCH 40 PVC 0.020" Slot Screen VE-5S
10					-			3797	10	Threaded End Cap
										Bentonite Chips
										2" SCH 40 PVC Blank
			SAA; stiff			1.5	4 8 9			
15					1020 VE-5-15			6080	15	
		SM	**SILTY SAND** ; SM; olive brown; fine-grained; loose; dry; (0,70,30,0)							
		ML	**SILT** ; ML; olive; low plasticity; stiff; dry; strong HC odor; (0,0,70,30)			1.5	4 8 10			
20					1030 VE-5-20			3549	20	
			SAA; green HC staining			1.5	5 8 11			#3 Sand
		SM	**SILTY SAND** ; SM; dark yellowish brown;		1035			166.3		

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-5** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **6/24/10** COMPLETED: **6/24/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **35.0**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **35.0**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **10**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		SM	fine-grained; dry; (0,80,20,0)		VE-5-25					
			SAA; brown; (0,70,30,0)							
30		ML	**SILT WITH SAND** ; ML; olive brown; low plasticity; very stiff; dry; moderate HC odor; (0,20,70,10)		1040 VE-5-30	1.5	4 7 9	137.1	30	2" SCH 40 PVC 0.020" Slot Screen VE-5D
		ML	**SILT** ; ML; olive; low plasticity; very stiff; dry; root casts; (0,5,85,10)							
		SM	**SILTY SAND** ; SM; light grayish olive; fine-grained; loose; dry; slight HC odor; (0,85,15,0)		1050 VE-5-35	1.5	6 8 12	112.1		
35			Borehole terminated at 35 feet.						35	Threaded End Cap
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-6** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **6/24/10** COMPLETED: **6/24/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **35.0**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **35.0**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **10**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			Asphalt							24" Well Vault
			SILTY SAND ; dark yellowish brown; fine-grained; medium dense; dry; no odor; Excavation Backfill; (0,80,20,0)							Neat Cement Grout
										2" SCH 40 PVC Blank
										Bentonite Chips
5									5	
										#3 Sand
										2" SCH 40 PVC 0.020" Slot Screen VE-6S
10									10	Threaded End Cap
										2" SCH 40 PVC Blank
			SAA; mixed with native soil of silty sand; olive; (0,75,25,0)		0725 VE-6-15	1.5	4 7 10	4.8		Bentonite Chips
15									15	
		ML	**SANDY SILT** ; ML; brown and grayish blue; non-plastic; soft; dry; slight HC odor; hydrocarbon staining; (0,30,70,0)		0730 VE-6-19.5	1	4 9 13	9.7		
20									20	
			SAA; olive; stiff		0735	1.5	4 10 11	12.2		

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-6** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **6/24/10** COMPLETED: **6/24/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **2**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **35.0**
BOREHOLE DEPTH (ft): **35.0**
BOREHOLE DIA. (in): **10**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
					VE-6-25					#3 Sand
30		ML	**SILT** ; ML; olive brown; low plasticity; stiff; dry; no odor; thin caliche; calcareous nodules; (0,0,90,10)		0740 VE-6-30	1.5	5 7 9	7.3	30	2" SCH 40 PVC 0.020" Slot Screen VE-6D
		SP	**POORLY GRADED SAND** ; SP; pale brown; fine-grained; loose; dry; no odor; (0,95,5,0)							
35		ML	**SANDY SILT** ; ML; gray to brown; non-plastic; stiff; dry; (0,30,70,0)		0750 VE-6-35	1.5	4 7 12	0.0	35	Threaded End Cap
			Borehole terminated at 35 feet.							
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-7** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **7/16/10** COMPLETED: **7/16/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Limited Acess Rig**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft): EASTING (ft):
LAT: LONG:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered** WELL DEPTH (ft): **27**
STATIC DTW (ft): **Not Encountered** BOREHOLE DEPTH (ft): **36.5**
WELL CASING DIA. (in): **2** BOREHOLE DIA. (in): **8**
LOGGED BY: **Richard Peltier** CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
			AB Gravel							8" Well Box
			Excavation Backfill: Yellowish brown sand with silt							Neat Cement Grout
		ML	**SILT** ; ML; brown; low plasticity; soft; dry; (0,0,90,10)		-			1.7		Bentonite Chips
5			Hand cleared to 5' on 7/16/10						5	
			SAA; dark gray; moist; (0,10,80,10)				2			2" SCH 40 PVC Blank Casing
			SAA; dark olive; dry; slight HC odor; (0,10,70,20)		0740 -	1.5	4 18	9.0		
10			SAA; olive; very stiff; strong HC odor; caliche		0745 VE-7-11	1.5	10 11 17	328	10	
15			SAA; hard; moderately cemented		0755 -	1	16 30 50/5	221.3	15	#3 Sand
20		SM	**SILTY SAND** ; SM; olive brown and green; fine-grained; dense; dry; hydrocarbon staining; moderate cementation; (0,60,40,0)		0800 -	.5	50/6	32.3	20	2" SCH 40 PVC 0.020" Slot Screen

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-7** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **7/16/10** COMPLETED: **7/16/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Limited Acess Rig**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **27**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **36.5**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **8**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
		SP	**POORLY GRADED SAND** ; SP; brown; fine-grained; dense; dry; (0,95,5,0)		0810 -	1	35 50/4	7.9		Threaded End Cap
30		CL	**SANDY LEAN CLAY** ; CL; light olive; low plasticity; very stiff; dry; no odor; (0,40,30,30)		0820 VE-7-30.5	1	21 50/4	3.4	30	Bentonite Chips
35		CL	**LEAN CLAY** ; CL; light olive; medium plasticity; hard; dry; no odor; (0,0,30,70)		0830 VE-7-36	1.5	20 30 50/6	3.4	35	
			Borehole terminated at 36.5 feet.							
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-8** PAGE 1 OF 2

DRILLING / INSTALLATION:
STARTED **6/23/10** COMPLETED: **6/23/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
LAT:
GROUND ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
STATIC DTW (ft): **Not Encountered**
WELL CASING DIA. (in): **2**
LOGGED BY: **Richard Peltier**

EASTING (ft):
LONG:
TOC ELEV (ft):
WELL DEPTH (ft): **35.0**
BOREHOLE DEPTH (ft): **35.0**
BOREHOLE DIA. (in): **10**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
			Gravel					
		ML	**SILT** ; ML; brown; low plasticity; soft; dry; no odor; (0,10,70,20)					
			Air knifed to 5' on 6/21/10		-			4.0
			SAA; very stiff		1440 VE-8-10	1.5	3 9 10	2.4
			SAA; blueish gray; root casts		1445 VE-8-15	1.5	3 9 11	34.9
		SM	**SILTY SAND** ; SM; grayish olive; fine-grained; loose; dry; slight HC odor; (0,70,30,0)		1450 VE-8-19.5	1	3 8 9	603
			SAA; olive brown; strong HC odor		1455 VE-8-24	.75	2 7 12	1246

Depth (feet): 5, 10, 15, 20

Well Construction:
- 24" Well Vault
- Neat Cement Grout
- 2" SCH 40 PVC Blank Casing
- Bentonite Chips
- #3 Sand

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-8** PAGE 2 OF 2

DRILLING / INSTALLATION:
STARTED **6/23/10** COMPLETED: **6/23/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ CME-85**
DRILLING METHOD: **Hollow Stem Auger**
SAMPLING EQUIPMENT: **Split Spoon**

NORTHING (ft):
EASTING (ft):
LAT:
LONG:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered**
WELL DEPTH (ft): **35.0**
STATIC DTW (ft): **Not Encountered**
BOREHOLE DEPTH (ft): **35.0**
WELL CASING DIA. (in): **2**
BOREHOLE DIA. (in): **10**
LOGGED BY: **Richard Peltier**
CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)	Well Construction
30			SAA; medium dense; slight HC odor; (0,55,45,0) SAA; (0,70,30,0)		1505 VE-8-29.5	1.25	4 7 10	36.4	30	2" SCH 40 PVC 0.020" Slot Screen
		SP	**POORLY GRADED SAND** ; SP; dark yellowish brown; fine-grained; loose; dry; slight HC odor; (0,100,0,0)							
35		CL	**LEAN CLAY** ; CL; light olive; medium plasticity; very stiff; dry; slight HC odor; (0,0,30,70) Borehole terminated at 35 feet.		1515 VE-8-35	1.5	4 7 12	17.6	35	Threaded End Cap
40									40	
45									45	

GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

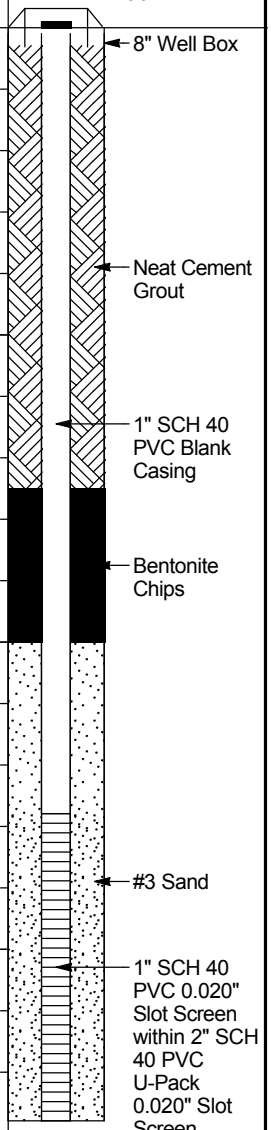
PROJECT: **Former Unocal Bulk Plant No. 0420**
LOCATION: **1590 West 16th Street, Merced, CA**
PROJECT NUMBER: **211402831.200.0630**

WELL / PROBEHOLE / BOREHOLE NO: **VE-9** PAGE 1 OF 1

DRILLING / INSTALLATION:
STARTED **6/22/10** COMPLETED: **6/22/10**
DRILLING COMPANY: **WDC Exploration and Wells**
DRILLING EQUIPMENT: **Air Knife/ Geoprobe 7730**
DRILLING METHOD: **Direct Push**
SAMPLING EQUIPMENT: **Dual Tube Rods**

NORTHING (ft): EASTING (ft):
LAT: LONG:
GROUND ELEV (ft): TOC ELEV (ft):
INITIAL DTW (ft): **Not Encountered** WELL DEPTH (ft): **17.8**
STATIC DTW (ft): **Not Encountered** BOREHOLE DEPTH (ft): **17.8**
WELL CASING DIA. (in):**1** BOREHOLE DIA. (in): **3.25**
LOGGED BY: **Richard Peltier** CHECKED BY: **Ed Simonis**

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)
			6" Asphalt					
			Fill Material: Gravelly and sandy soil					
		ML	**SILT** ; ML; very dark brown; low plasticity; soft; dry; no odor; (0,10,80,10)					
			SAA; slight HC odor					
			Air knifed to 5' 6/21/10		--			30.0
5			SAA		1105 VE-9-6			17.1
			SAA; thin caliche		1108 VE-9-9			24.5
10			SAA; olive gray; slight HC odor		1110 VE-9-11			129.7
			SAA; strong HC odor		1120 VE-9-14			7856
15		SM	**SILTY SAND** ; SM; olive gray and black; fine-grained; medium dense; dry; strong HC odor; (0,80,20,0)		1127 VE-9-15.5			2623
		SW	**WELL-GRADED SAND** ; SW; gray; fine to medium-grained; loose; dry; strong HC odor; (0,95,5,0)		1130 VE-9-17.5			564
20			Boring advanced at approximate 30 degree angle from vertical. Advanced approximately 15' vertically. Screened from 12.8' to 17.8' along diagonal. Borehole terminated at 17.8 feet.					



GEO FORM 304 0420 BH-32, VE-1 TO VE-9.GPJ STANTEC ENVIRO TEMPLATE 010509.GDT 8/17/10

GEOTRACKER ID#:T0604700029

DATE STARTED: 12/16/92

DATE COMPLETED: 12/16/92

DRILLING EQUIPMENT: Mobile B-51

DRILLING CONTRACTOR: Mitchell Drilling

LOGGED BY: L. Griffith

TOTAL DEPTH: 40.0

BORING DIAMETER: 6.75"

SURFACE CONDITIONS: Dirt

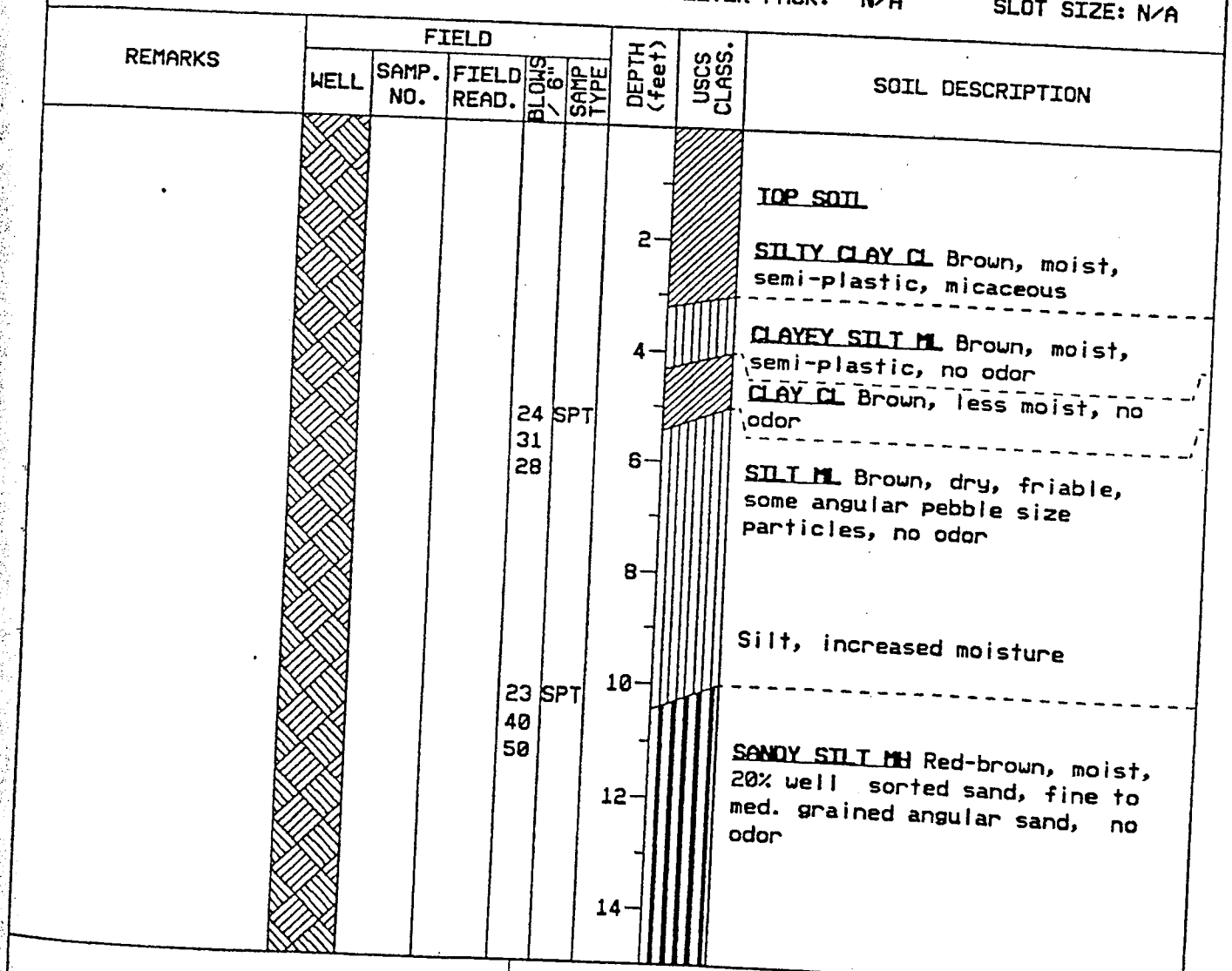
SURFACE ELEVATION: 171.20

COORDINATES:

GROUNDWATER CONDITIONS:

CASING DEPTH: N/A

FILTER PACK: N/A SLOT SIZE: N/A



STE

SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF SB-1

Fig. 1

Sheet 1 of 2

GEOTRACKER ID #:T0604700137

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	BLOWS/6"	SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
				15 22 46	SPT	18		SILT ML Red-brown, moist, loose, no odor Brown, slightly plastic
						18		
Bentonite/Cement Backfill				12 15 48	SPT	20		SILT ML Brown, moist, loose, black organic staining, calcium deposit, no odor Brown, moist, loose, no organic staining
						22		
						24		
				12 17 41	SPT	26		SILT ML Brown, moist, loose, black organic staining, calcium, no odor
						28		
				16 33	SPT	30		SANDY SILT MH Brown, moist, loose, 20% poorly graded fine grained sand, no odor Increased sand content
						32		
						34		
				12 18 36	SPT	36		SAND SW Brown, moist, well graded, fine to med. grained, micaceous, no odor
						38		SILTY CLAY CH Brown, moist, 15% silt, no odor, highly plastic

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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF SB-1

Fig. 2

Sheet 2 of 2

GEOTRACKER ID #:T0604700137

DATE STARTED: 12/23/92

DATE COMPLETED: 12/23/92

DRILLING EQUIPMENT: Mobile B-51

DRILLING CONTRACTOR: Mitchell Drilling

LOGGED BY: L. Griffith

TOTAL DEPTH: 41.0

BORING DIAMETER: 6.75"

SURFACE CONDITIONS: A/C Pavement

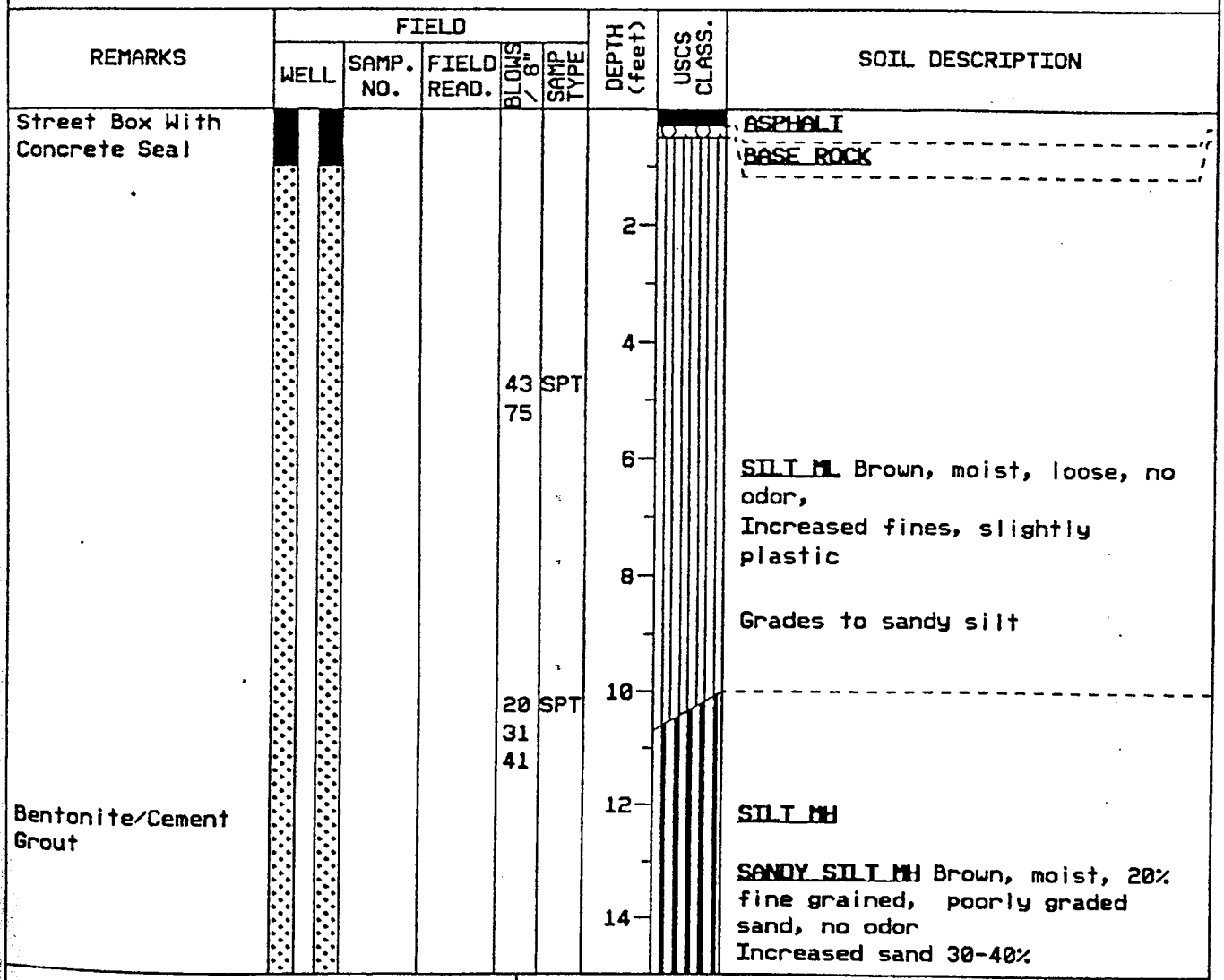
SURFACE ELEVATION: 169.81

COORDINATES:

GROUNDWATER CONDITIONS:

CASING DEPTH: 41

FILTER PACK: #3 Sand SLOT SIZE: .020"



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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-4

Fig. 1

Sheet 1 of 3

GEOTRACKER ID #:T0604700137

REMARKS	FIELD: WELL	SAMP. NO.	FIELD READ.	BLOWS/6"	SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
				17 21 37	SPT	16		SILTY SAND SW Brown, moist, fine to med. grained sand, well graded, no odor
						18		SANDY SILT MH at 18', 40% sand, well graded, fine to course grained, 5% angular pebble size particles, dry, no odor
Bentonite Pellet Seal				29 44 45	SPT	20		Silty sand at 19', fine to med. grained sand, well sorted, with calcium banding
						22		Sandy silt, green-brown, moist, loose, 10% fine grained sand, poorly sorted, no odor
						24		Increased fines, semi-plastic, 5% sand and some pebble size particles
				21 34 75	SPT			Silty clay, brown, moist, plastic, 5% sand, no odor, some gravel size particles
						26		SILT ML Brown, moist, soft, loose, no odor
						28		SILTY CLAY CL Brown, moist, plastic, calcium rich, no odor
Filter Pack				14 26 32	SPT	30		SILT ML Brown, moist, loose, no odor
						32		Silty sand, moist, brown, fine to med. grained, well sorted, no odor
						34		Silty clay, brown, moist, plastic, micaceous, no odor
				17 23 38	SPT	36		SAND SW Brown, fine to med. grained, well sorted sand, 20% pebble and cobble size particles
						38		SILTY CLAY CH Brown, moist,

STE _____

SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-4

Fig. 2

Sheet 2 of 3

GEOTRACKER ID #:T0604700137

REMARKS	FIELD					DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
	WELL	SAMP. NO.	FIELD READ.	BLOWS / 6"	SAMP TYPE			
								plastic, no odor
End Cap								Bottom of MW-4 at 41 feet
						42		
						44		
						46		
						48		
						50		
						52		
						54		
						56		
						58		
						60		
						62		
						64		

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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-4

Fig. 3

Sheet 3 of 3

GEOTRACKER ID #:T0604700137

DATE STARTED: 2/7/94

DATE COMPLETED: 2/7/94

DRILLING EQUIPMENT: Mobile Hi-Torque

DRILLING CONTRACTOR: MDE

LOGGED BY: L. Griffith

TOTAL DEPTH: 45.0

BORING DIAMETER: 8"

SURFACE CONDITIONS: Paved Road

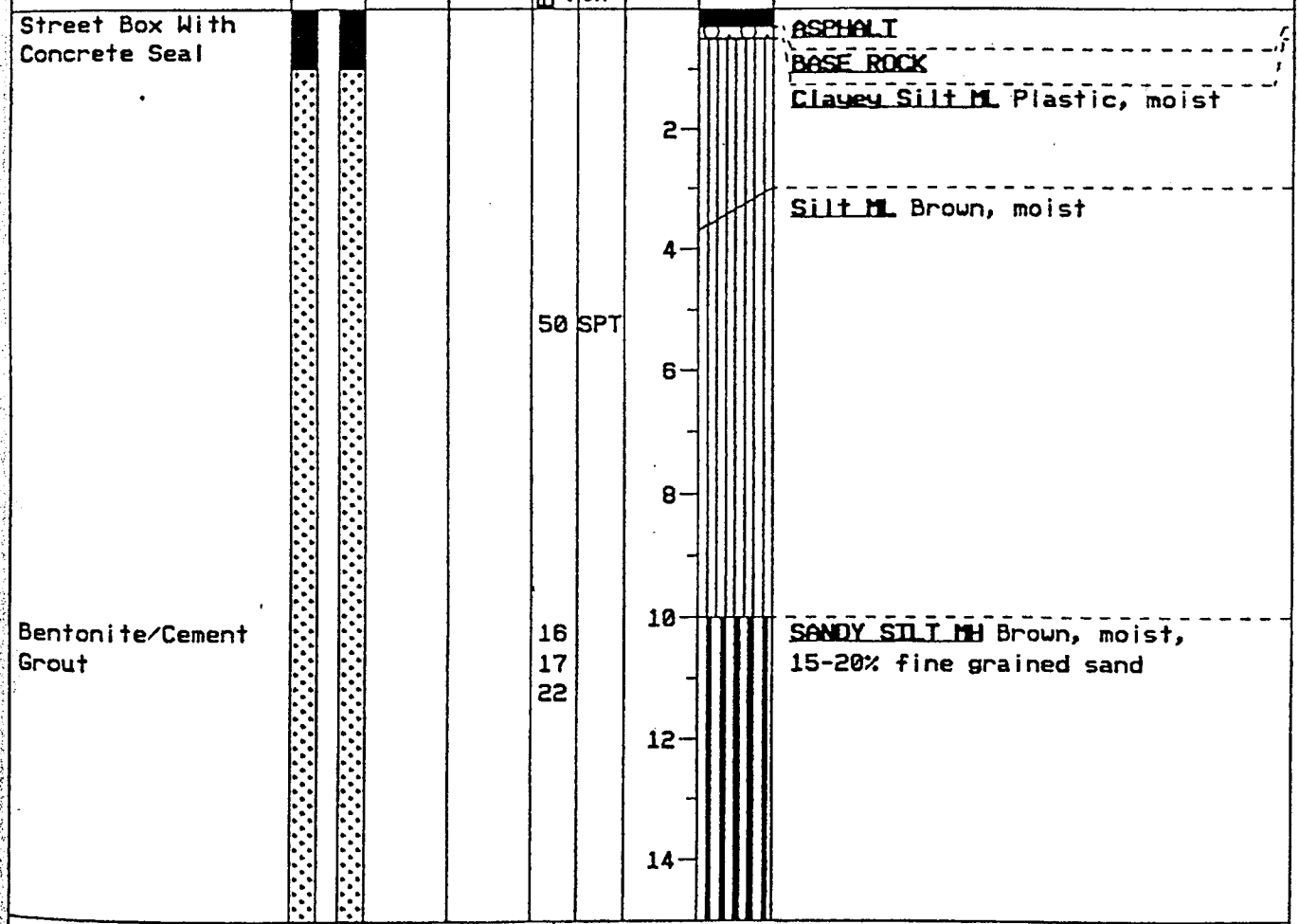
SURFACE ELEVATION: 189.97

COORDINATES: N 254.1 E 392.8

GROUNDWATER CONDITIONS:

CASING DEPTH: 45'

FILTER PACK: #3 Sand SLOT SIZE: .020"



STE _____

SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

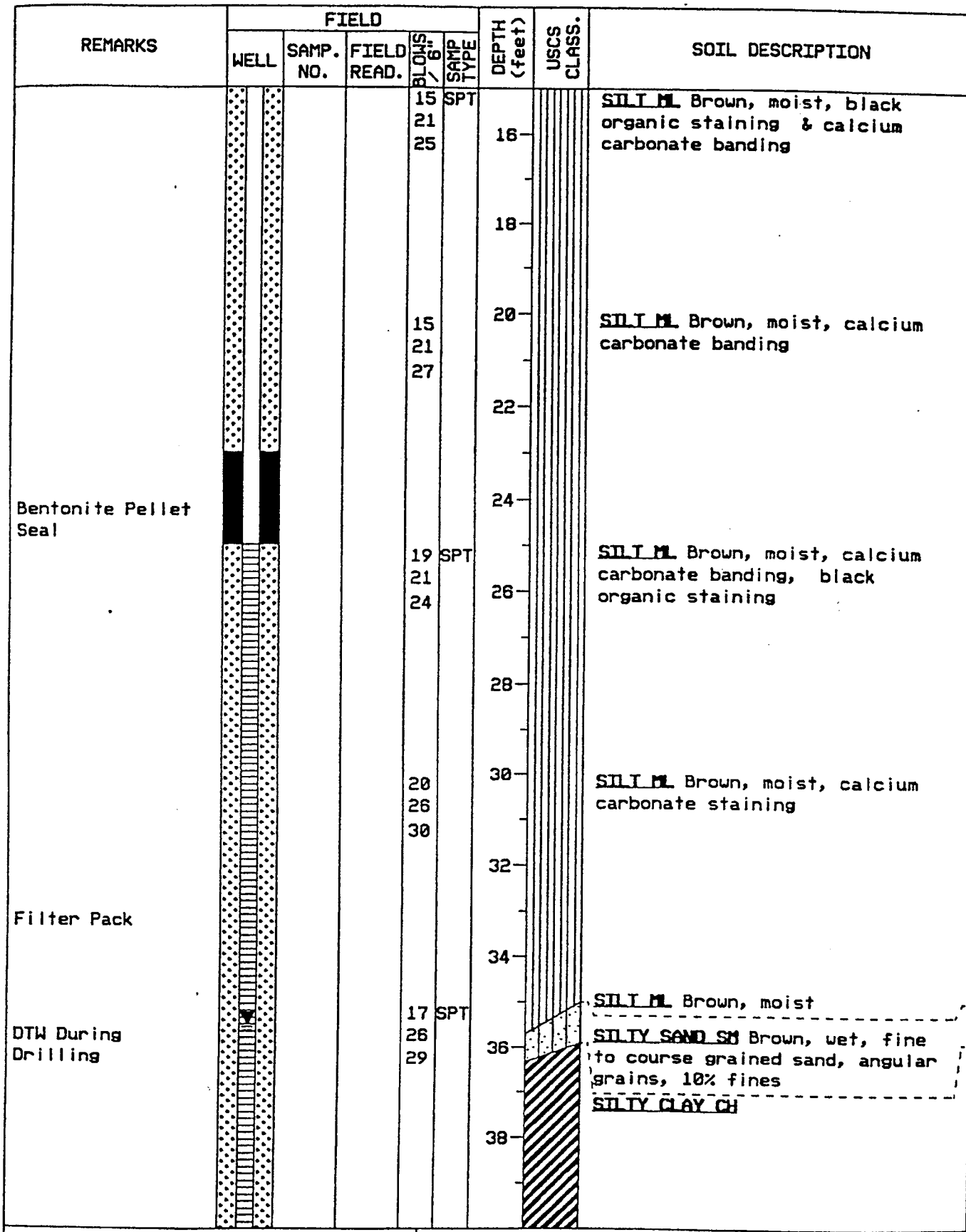
Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-5

Fig. 1

Sheet 1 of 3

GEOTRACKER ID #:T0604700137



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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

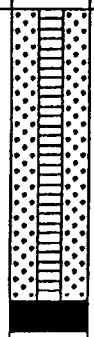
Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-5

Fig. 2

Sheet 2 of 3

GEOTRACKER ID #:T0604700137

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	FIELD: BLOWS/6"	FIELD: SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
						42		SILTY CLAY CH
						44		
End Cap								Bottom of MW_5 at 45 feet
						46		
						48		
						50		
						52		
						54		
						56		
						58		
						60		
						62		
						64		

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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-5

Fig. 3

Sheet 3 of 3

DATE STARTED: 2/9/94

DATE COMPLETED: 2/9/94

DRILLING EQUIPMENT: Mobile Hi-Torque

DRILLING CONTRACTOR: MDE

LOGGED BY: L. Griffith

TOTAL DEPTH: 45.0

BORING DIAMETER: 8"

SURFACE CONDITIONS: Gravel Parking Area

SURFACE ELEVATION: 170.93

COORDINATES: N 496.3 E 169.6

GROUNDWATER CONDITIONS:

CASING DEPTH: 45'

FILTER PACK: #3 Sand SLOT SIZE: .020"

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	BLOWS / 6"	SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
Street Box With Concrete Seal						0		GRAVEL FILL
								SILT ML Medium brown, moist, 5% sand
						2		
						4		
				11	SPT			SILT ML Medium brown, moist
				15				
				21		6		
						8		
						10		SILT ML Med. brown, moist
				22				
				33				
				44		12		
Bentonite/Cement Grout								
						14		

STE _____

SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

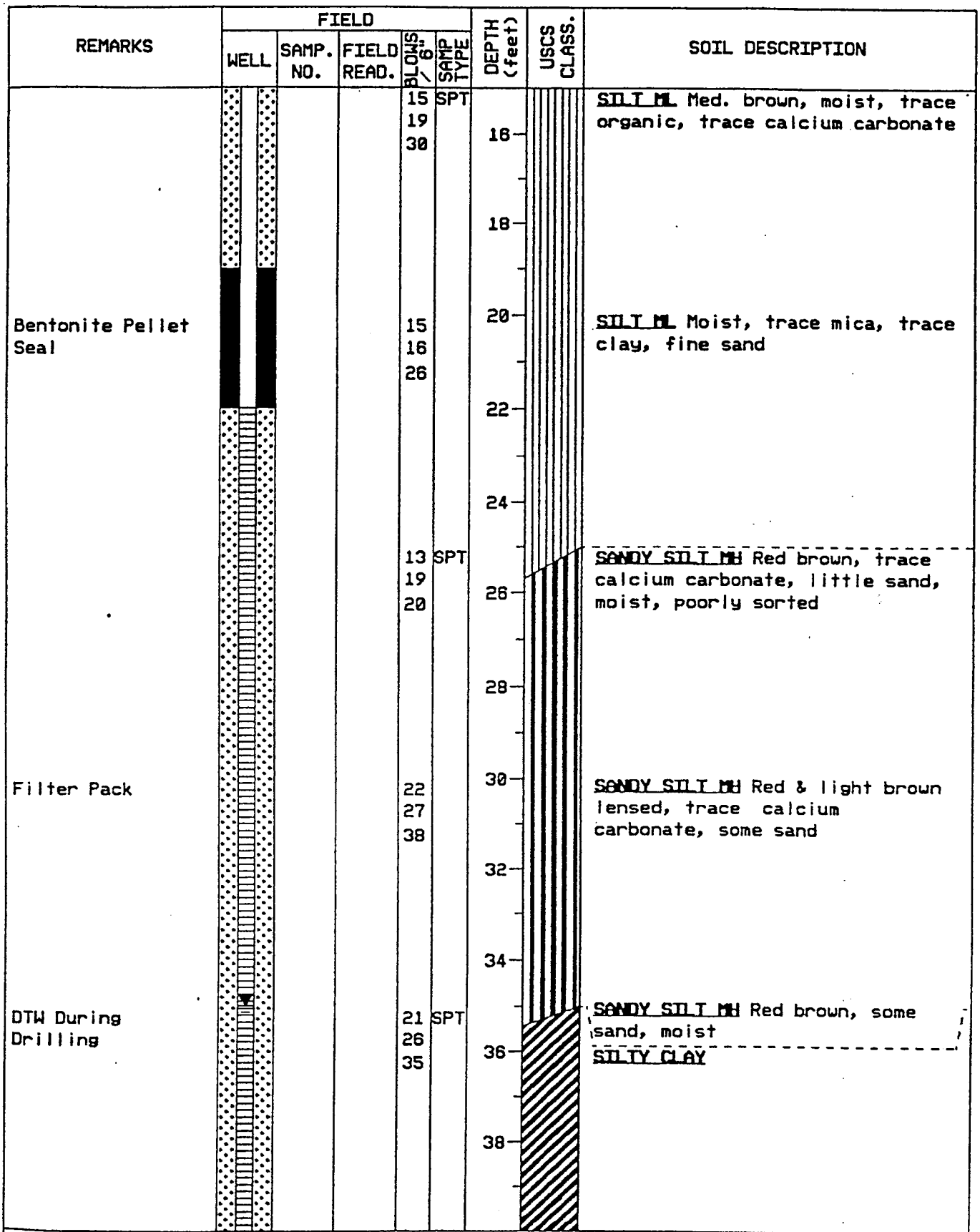
Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-6

Fig. 1

Sheet 1 of 3

GEOTRACKER ID #:T0604700137



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SUN TECH ENVIRONMENTAL

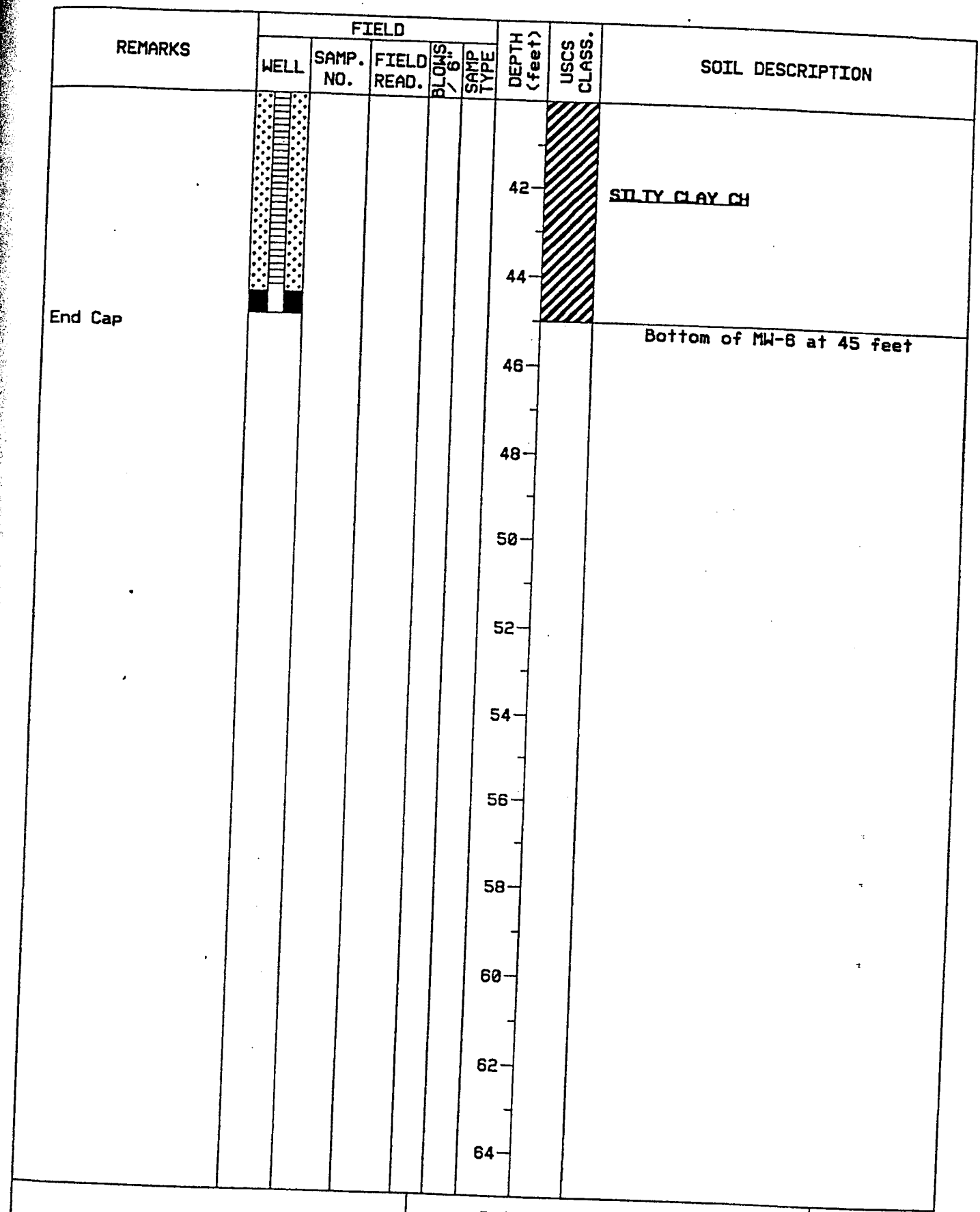
PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-6

Fig. 2

Sheet 2 of 3



STE _____

SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-6

Fig. 3

Sheet 3 of 3

GEOTRACKER ID #:T0604700137

STARTED: 2/9/94

COMPLETED: 2/9/94

LLING EQUIPMENT: Mobile Hi-Torque

LLING CONTRACTOR: MDE

GED BY: L. Griffith

AL DEPTH: 45.0

RING DIAMETER: 8"

SURFACE CONDITIONS: Paved Road

SURFACE ELEVATION: 169.88

COORDINATES: N 477.0 E 15.9

GROUNDWATER CONDITIONS:

CASING DEPTH: 45'

FILTER PACK: #3 Sand SLOT SIZE: .020"

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	BLOWS / 6"	SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
reet Box With ncrete Seal								ASPHALT
						2		SILTY CLAY OH
						4		
				6 7 10	SPT	6		SILTY CLAY OH 6" silty clay, moist, light brown, very stiff, 12" clay, moist gray brown, med. stiff, 2" light brown micaceous silt
						8		
Bentonite/Cement Grout				12 15 25		10		SILT ML Trace sand, moist, gray, rust mottling throughout
						12		
						14		

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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

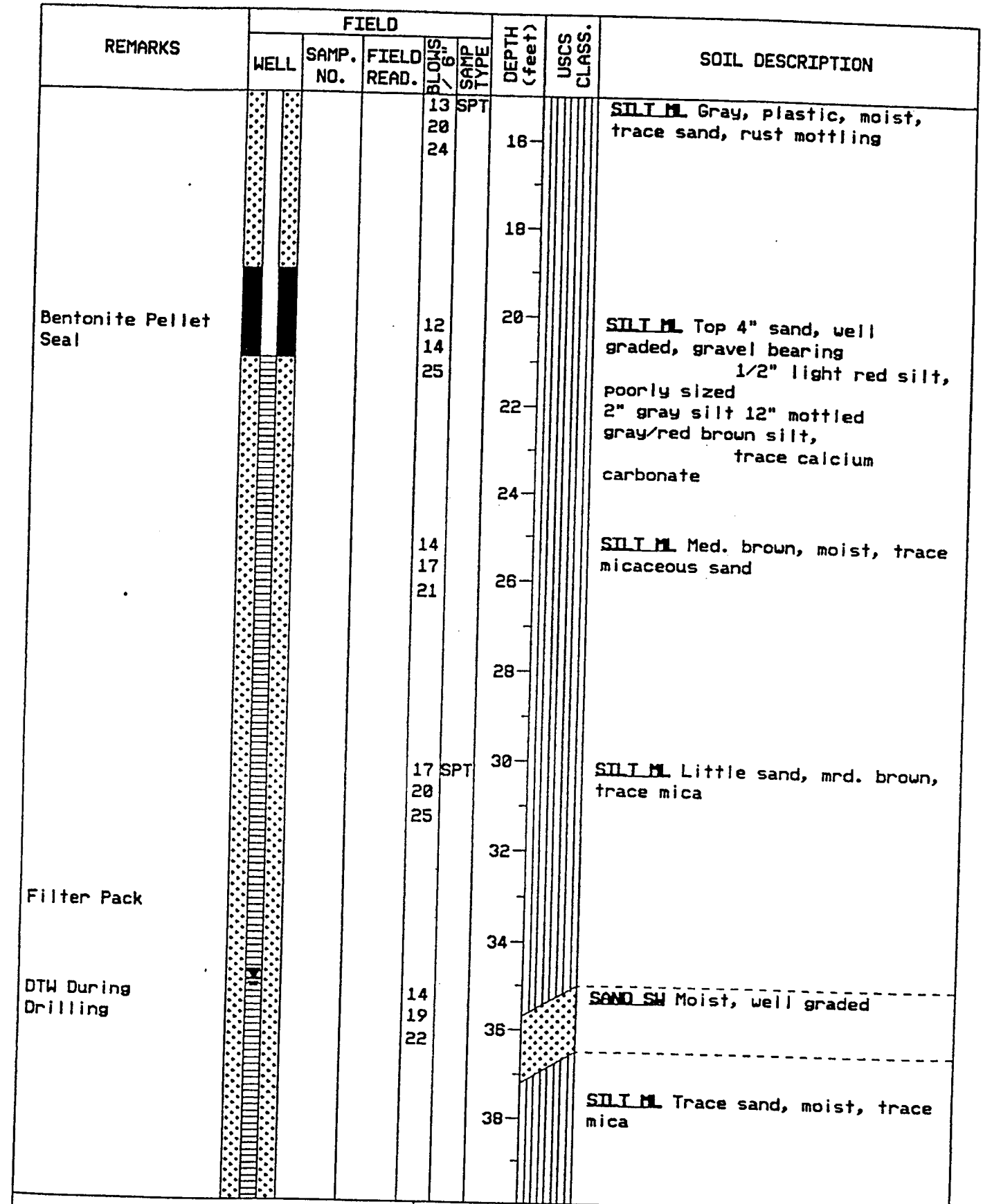
Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-7

Fig. 4

Sheet 1 of 3

GEOTRACKER ID #:T0604700137



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SUN TECH ENVIRONMENTAL

PROJECT NO. 2012

Briceno Air Conditioning
1427 "N" St., Merced, CA

LOG OF MW-7

Fig. 5

Sheet 2 of 3

GEOTRACKER ID #:T0604700137

WATERWORK

WELL/BORING LOG

PROJECT CITY OF MERCED LOCATION 704 W. 16TH ST. MERCED PROJECT NO. 0012
WELL/BORING NO. SB-4 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 8/19/87 DRILLER P. PEARSON LOGGED BY R. JUNCAL
DRILLING COMPANY SIERRA DRILLING METHOD HOLLOW STEM AUGER
BOREHOLE DIAMETER 8.0 IN DEPTH DRILLED 20.0 FT DEPTH COMPLETED ____ FT
CASING TYPE ____ DIAMETER ____ IN SCH. ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ SIZE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE ____ INTERVAL ____ FT TO ____ FT
NOTES BORING ABANDONED WITH CEMENT GROUT (5% BENTONITE)

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE I.D.	U.S.C. LOG	SOIL DESCRIPTION
	0				0-4 ASPHALT
	2	0	4A	CL	4-7' BROWN SILTY CLAY, 15% SILT, 85% CLAY, STIFF, SLIGHTLY MOIST, NO PRODUCT ODOR
	4				
	6	0	4B		
	8			ML	7-9' DARK BROWN CLAYEY SILT, 75% SILT, 25% CLAY, MEDIUM STIFF, SLIGHLTY MOIST, NO PRODUCT ODOR
	10	1	4C	CL	9-16' LIGHT BROWN SILTY CLAY, 30% SILT, 70% CLAY, STIFF, SLIGHTLY MOIST, NO PRODUCT ODOR
	12				
	14				
	16	0	4D	ML	16-20' LIGHT BROWN CLAYEY SILT, 85% SILT, 15% CLAY, VERY STIFF, DRY, SLIGHT GASOLINE ODOR
	18				
	20	5	4E		
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#T0604700080

WATERWORK

WELL/BORING LOG

PROJECT CITY OF MERCED LOCATION 704 W. 16TH ST. MERCED PROJECT NO. 0012
WELL/BORING NO. SB-5 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 8/19/87 DRILLER P. PEARSON LOGGED BY R. JUNCAL
DRILLING COMPANY SIERRA DRILLING METHOD HOLLOW STEM AUGER
BOREHOLE DIAMETER 8.0 IN DEPTH DRILLED 20.0 FT DEPTH COMPLETED ____ FT
CASING TYPE ____ DIAMETER ____ IN SCH. ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ SIZE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE ____ INTERVAL ____ FT TO ____ FT
NOTES BORING ABANDONED WITH CEMENT GROUT (5% BENTONITE)

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE I.D.	U.S.C. LOG	SOIL DESCRIPTION
	0				0-4 ASPHALT
	2	0	5A	CL	4-12' BROWN SILTY CLAY, 25% SILT, 75% CLAY, MEDIUM STIFF, SLIGHTLY MOIST, NO PRODUCT ODOR
	4				
	6	0	5B		
	8				
	10	0	5C		
	12			ML	12-16' LIGHT BROWN CLAYEY SILT, 90% SILT, 10% CLAY, MEDIUM STIFF, SLIGHTLY MOIST NO PRODUCT ODOR
	14				
	16	1	5D	CL	16-19' BROWN SILTY CLAY, 30% SILT, 70% CLAY, STIFF, SLIGHTLY MOIST, SLIGHT GASOLINE ODOR
	18				
	20	4	5E	ML	19-20' LIGHT BROWN CLAYEY SILT, 80% SILT, 20% CLAY, HARD, DRY, SLIGHT GASOLINE ODOR
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#T0604700080

WATERWORK

WELL/BORING LOG

PROJECT CITY OF MERCED LOCATION 704 W. 16TH ST. MERCED PROJECT NO. 0012
WELL/BORING NO. SB-1 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 8/19/87 DRILLER P. PEARSON LOGGED BY R. JUNCAL
DRILLING COMPANY SIERRA DRILLING METHOD HOLLOW STEM AUGER
BOREHOLE DIAMETER 8.0 IN DEPTH DRILLED 20.0 FT DEPTH COMPLETED ____ FT
CASING TYPE ____ DIAMETER ____ IN SCH. ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ SIZE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE ____ INTERVAL ____ FT TO ____ FT
NOTES BORING ABANDONED WITH CEMENT GROUT (5% BENTONITE)

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE I.D.	U.S.C. LOG	SOIL DESCRIPTION
	0				0-3" ASPHALT
	2	0	1A	ML	3"-10' BROWN CLAYEY SILT, 70% SILT, 30% CLAY DRY, HARD, NO PRODUCT ODOR
	4	0	1B	ML	
	6			ML	
	8			ML	COLOR TO GREY
	10	0	1C	CL/ML	10-14' LIGHT BROWN CLAYEY SILT/SILTY CLAY, 50% SILT, 50% CLAY, DRY, VERY STIFF, NO PRODUCT ODOR
	12			CL/ML	
	14			CL/ML	
	16	0	1D	ML	14-20' LIGHT BROWN MOTTLED WHITE CLAYEY SILT, 60% SILT, 40% CLAY, DRY, VERY STIFF, NO PRODUCT ODOR
	18			ML	
	20	0	1E	ML	
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#T0604700080

WATERWORK

WELL/BORING LOG

PROJECT CITY OF MERCED LOCATION 704 W. 16TH ST. MERCED PROJECT NO. 0012
WELL/BORING NO. SB-2 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 8/19/87 DRILLER P. PEARSON LOGGED BY R. JUNCAL
DRILLING COMPANY SIERRA DRILLING METHOD HOLLOW STEM AUGER
BOREHOLE DIAMETER 8.0 IN DEPTH DRILLED 25.0 FT DEPTH COMPLETED ____ FT
CASING TYPE ____ DIAMETER ____ IN SCH. ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ SIZE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE ____ INTERVAL ____ FT TO ____ FT
NOTES BORING ABANDONED WITH CEMENT GROUT (5% BENTONITE)

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE I.D.	U.S.C. LOG	SOIL DESCRIPTION
	0				0-4 ASPHALT
	2	0	2A	CL	4-9' DARK BROWN SANDY CLAY SOME SILT, 10% FINE SUBROUND TO SUBANGULAR SAND, 10% SILT, 80% MEDIUM STIFF CLAY, SLIGHTLY MOIST, NO PRODUCT ODOR
	4	7	2B		
	6				
	8	4	2C		
	10	20	2D	CL	9-18' LIGHT BROWN SILTY CLAY SOME SAND, 10% FINE SUBROUND TO SUBANGULAR SAND, 25% SILT, 65% MEDIUM STIFF TO VERY STIFF CLAY, SLIGHTLY MOIST, NO PRODUCT ODOR
	12				
	14				
	16	1	2E		
	18				
	20	1	2F	CL	18-22' GREY SILTY CLAY, 30% SILT, 70% VERY STIFF CLAY, SLIGHTLY MOIST, SLIGHT GASOLINE ODOR
	22			ML	22-25' LIGHT BROWN CLAYEY SILT, 80% SILT, 20% CLAY, SLIGHTLY MOIST, SLIGHT TO MODERATE GASOLINE ODOR
	24				
	26	20	2G		
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#T0604700080

WATERWORK

WELL/BORING LOG

PROJECT CITY OF MERCED LOCATION 704 W. 16TH ST. MERCED PROJECT NO. 0012
WELL/BORING NO. SB-3 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 8/19/87 DRILLER P. PEARSON LOGGED BY R. JUNCAL
DRILLING COMPANY SIERRA DRILLING METHOD HOLLOW STEM AUGER
BOREHOLE DIAMETER 8.0 IN DEPTH DRILLED 25.0 FT DEPTH COMPLETED ____ FT
CASING TYPE ____ DIAMETER ____ IN SCH. ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ SIZE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE ____ INTERVAL ____ FT TO ____ FT
NOTES BORING ABANDONED WITH CEMENT GROUT (5% BENTONITE)

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE I.D.	U.S.C. LOG	SOIL DESCRIPTION
	0				0-4 ASPHALT
	2	1	3A	ML	4-8' BROWN CLAYEY SILT, 90% SILT, 10% CLAY, MEDIUM STIFF, DRY, NO PRODUCT ODOR
	4	0	3B		
	6				
	8	0	3C	CL	8-15' BROWN SILTY CLAY, 40% SILT, 60% CLAY, MEDIUM STIFF, SLIGHTLY MOIST, NO PRODUCT ODOR
	10	1	3D		
	12				
	14				
	16	2	3E	ML	15-20' BROWN CLAYEY SILT, 60% SILT, 40% CLAY, HARD, SLIGHTLY MOIST, SLIGHT GASOLINE ODOR
	18				
	20	18	3F	CL	20-23' DARK BROWN SILTY CLAY, 15% SILT, 85% CLAY HARD, SLIGHTLY MOIST, MODERATE GASOLINE ODOR
	22				
	24			ML	23-25' LIGHT BROWN SANDY SILT, 10% FINE SAND, 90% SILT, STIFF, SLIGHTLY MOIST, MODERATE GASOLINE ODOR
	26	28	3G		
	28				
	30				
	32				
	34				
	36				
	38				
	40				

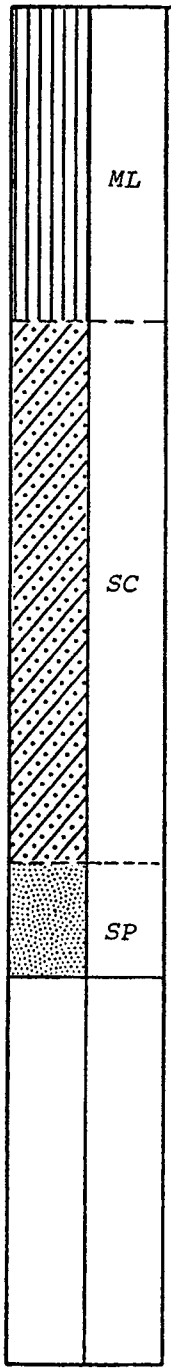
GEOTRACKER ID#T0604700080

BORING B-1

DATE DRILLED: *1-11-90*

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLING: PID READINGS	SAMPLES
0				
5	CA	78	ø	■
10	CA	51	10	■
15	CA	76	300	■
20	CA	62	500	■
25	CA	65	400	■



SYMBOLS DESCRIPTION

0-8' *Brown, sandy silt, very fine grained, hard, slightly moist, no odor.*

8'-22' *Gray and brown, clayey sand, very fine to fine, very dense, moist, slightly micaceous, petroleum odor.*

22'-25' *Gray and brown, poorly graded sand, fine to coarse, slightly clayey, very dense, moist, slightly micaceous, petroleum odor.*

Total depth = 25 feet.

LOG OF BORING

Dames & Moore

PLATE

JOB NUMBER *16000-218-044*

GEOTRACKER ID #:T0604700132

BORING B–2

DATE DRILLED: *1-11-90*

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLING: PID READINGS	SAMPLES	SYMBOLS	DESCRIPTION
0					F	0-3' *Fill, brown, silty sand, medium grained, loose, moist.*
5	CA	16	30	■		3'-22' *Brown, clayey sand, fine to very fine, medium dense to very dense, moist, slightly micaceous, petroleum odor, grading to medium sand with depth.*
10	CA	54	300	■	SC	
15	CA	50 for 6"	500	■		
20	CA	72	450	■		
25	CA	42	225	■	SP	22'-25' *Brown, poorly graded sand, fine to medium sand, slightly silty, dense, moist, slightly micaceous, petroleum odor.*
						Total depth = 25 feet.

LOG OF BORING

Dames & Moore

PLATE

JOB NUMBER *16000-218-044*

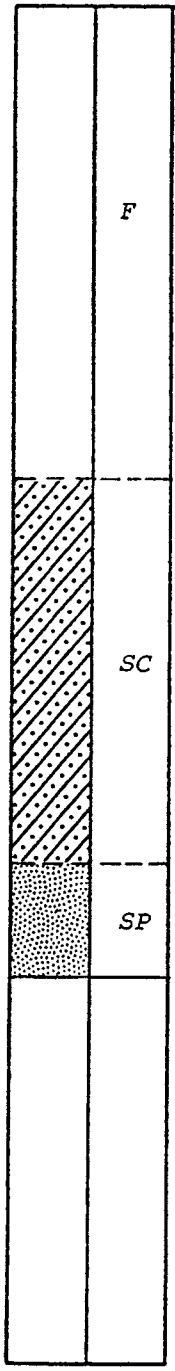
GEOTRACKER ID #:T0604700132

BORING B–3

DATE DRILLED: *1-11-90*

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLING: PID READINGS	SAMPLES
0				
5	CA	25	120	■
10	CA	31	150	■
15	CA	59	300	■
20	CA	53	350	■
25	CA	32	120	■



SYMBOLS DESCRIPTION

0-12' Fill, dark brown, clayey gravel, fine to coarse sand, 1/2" gravel, medium dense, moist, petroleum odor.

12'-22' Brown, clayey sand, very fine to fine grained, very dense, moist, slightly micaceous, petroleum odor.

22'-25' Brown, poorly graded sand, fine to medium grained, slightly silty, dense, moist, slightly micaceous, petroleum odor.

Total depth = 25 feet.

LOG OF BORING

Dames & Moore

PLATE

JOB NUMBER *16000-218-044*

GEOTRACKER ID #: T0604700132

BORING B–4

DATE DRILLED: *1-11-90*

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLING: PID READINGS	SAMPLES	SYMBOLS	DESCRIPTION
0						
					F	0-12' *Fill, dark brown, clayey gravel, fine to coarse sand, 3/4" gravel, medium dense, moist.*
5	CA	23	Ø	■		
10	CA	16	3	■		
					SC	12'-22' *Gray, clayey sand, very fine to fine, very dense, moist, slightly micaceous, petroleum odor.*
15	CA	52	30	■		
20	CA	56	250	■		
					SP	22'-25' *Brown, poorly graded sand, fine to medium grained, slightly silty, medium dense, moist, slightly micaceous, petroleum odor.*
25	CA	23	200	■		
						Total depth = 25 feet.

LOG OF BORING

Dames & Moore

PLATE

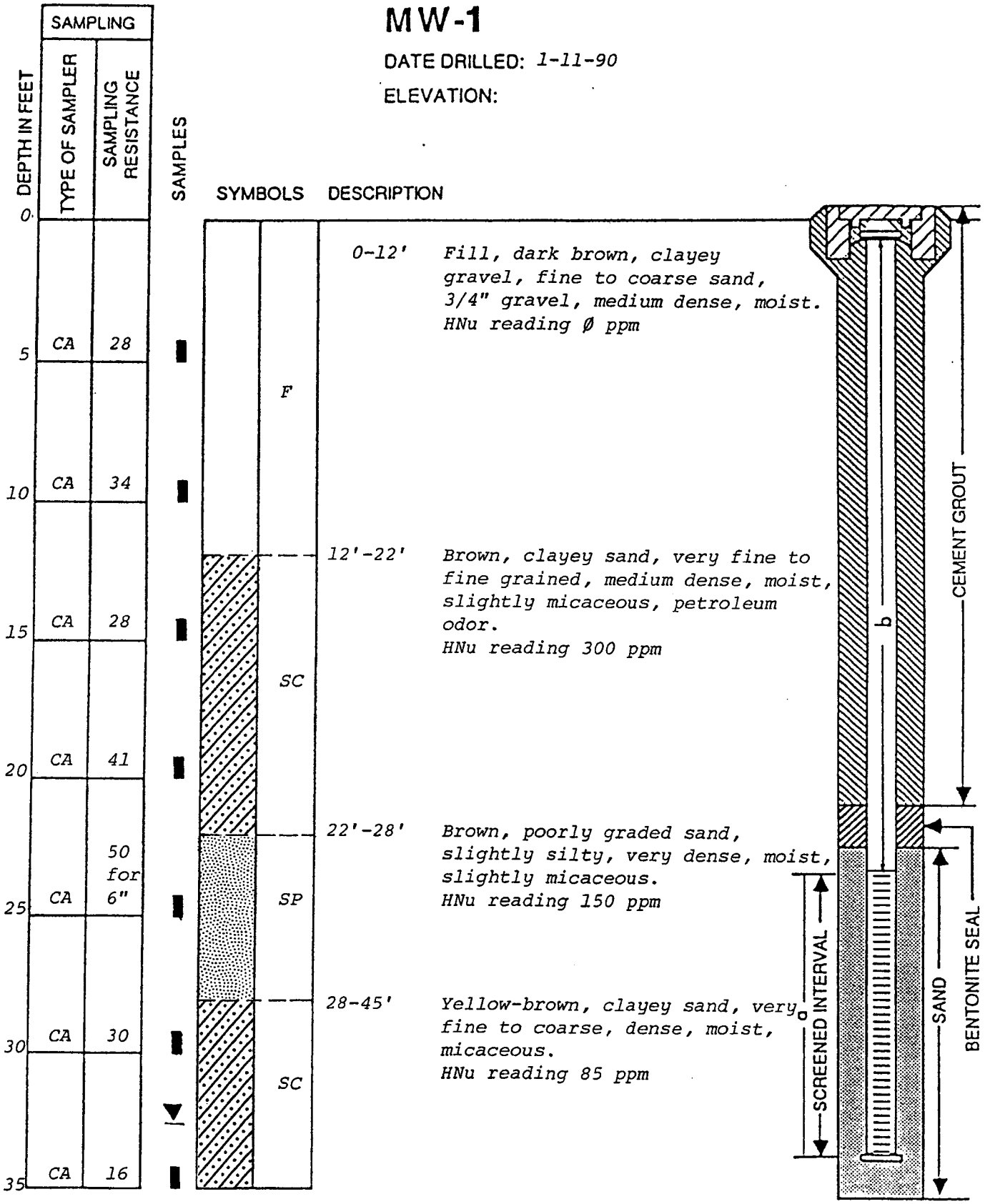
JOB NUMBER *16000-218-044*

GEOTRACKER ID #:T10004700132

MW-1

DATE DRILLED: 1-11-90

ELEVATION:



a - 20 feet
b - 25 feet

LOG OF BORING

Dames & Moore

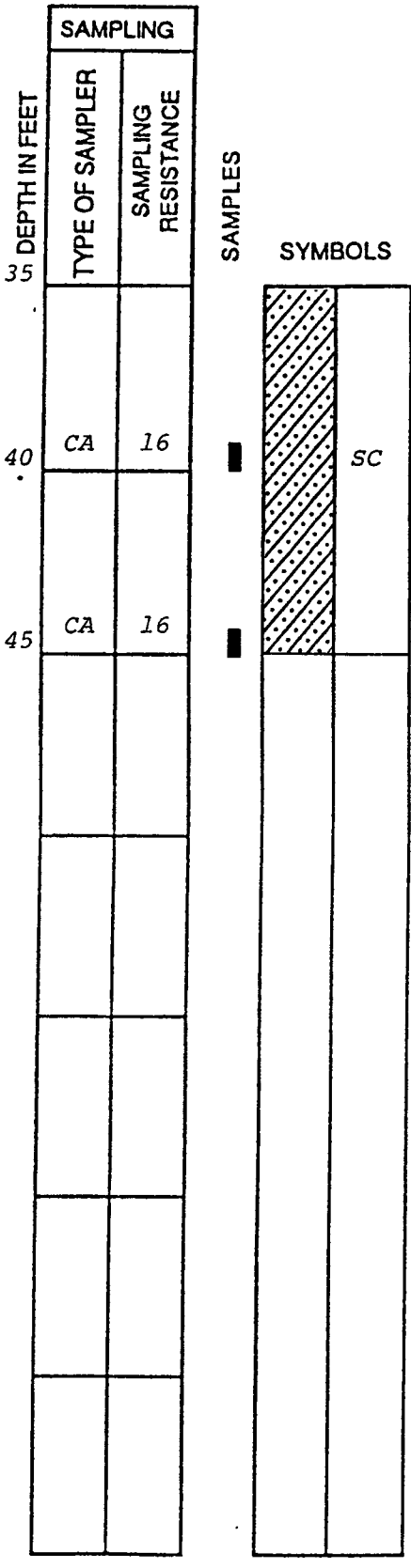
JOB NUMBER 16000-218-044

GEOTRACKER ID #:T0604700132

MW-1

DATE DRILLED: *1-11-90*

ELEVATION:



SYMBOLS	DESCRIPTION
SC	*28'-45' Yellow-brown, clayey sand, very fine to coarse grained, medium dense, saturated, slightly micaceous.*
	HNu reading Ø ppm
	Total depth = 45 feet.

JOB NUMBER *16000-218-044*

LOG OF BORING

Dames & Moore

GEOTRACKER ID #:T0604700132

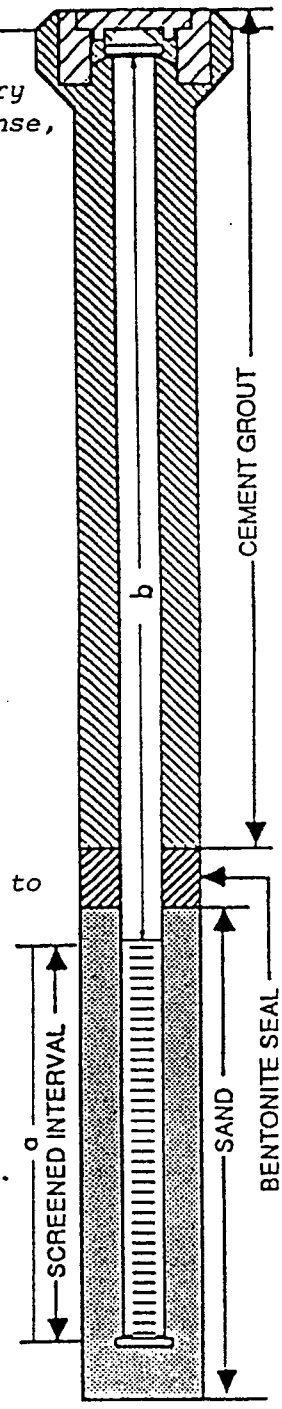
MW-2

DATE DRILLED: 1-11-90

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0					
	CA	16	■	SC	0-22' Brown and gray, clayey sand, very fine to fine grained, medium dense, moist slightly micaceous. HNu reading Ø ppm
5					
	CA	15	■		
10					
	CA	16	■		HNu reading 150 ppm
15					
	CA	21	■		HNu reading 400 ppm
20					
	CA	45	■	SP	22'-27' Brown, poorly graded sand, fine to coarse, slightly clayey, very dense, moist, micaceous. HNu reading 40 ppm
25					
	CA	19	■	SC	27-45' Yellow-brown, clayey sand, fine to coarse, medium dense, moist, slightly micaceous. HNu reading Ø ppm
30			▼		
	CA	19	■		
35					

a - 20 feet
b - 25 feet



LOG OF BORING

Dames & Moore

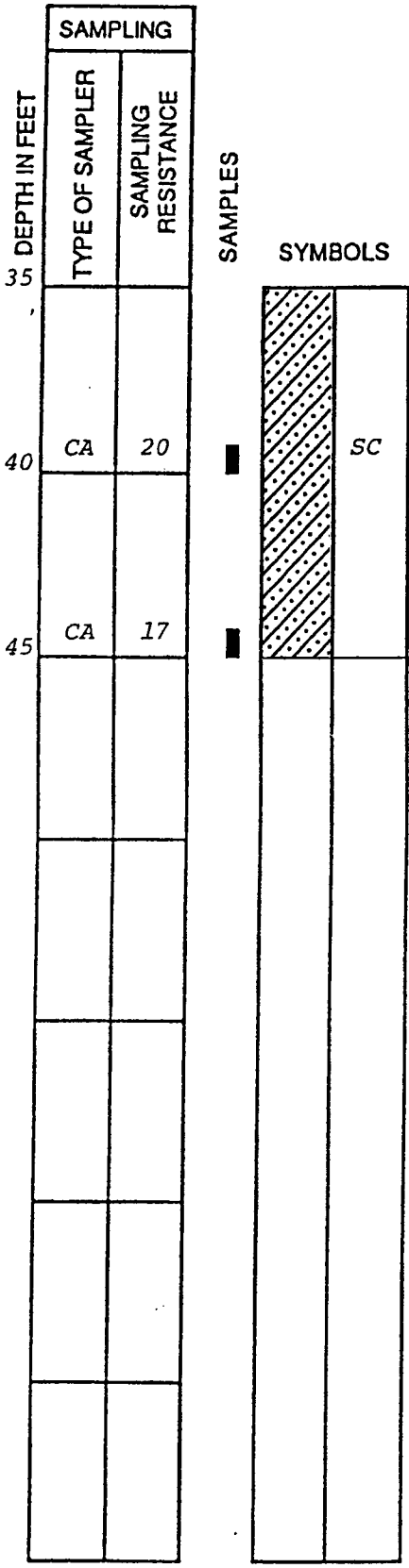
JOB NUMBER 16000-218-044

GEOTRACKER ID #:T0604700132

MW-2

DATE DRILLED: *1-11-90*

ELEVATION:



SYMBOLS	DESCRIPTION
SC	*27'-45' Yellow-brown, clayey sand, fine to coarse grained, medium dense, saturated, slightly micaceous.*
	HNu reading Ø ppm
	Total depth = 45 feet.

JOB NUMBER *16000-218-044*

LOG OF BORING

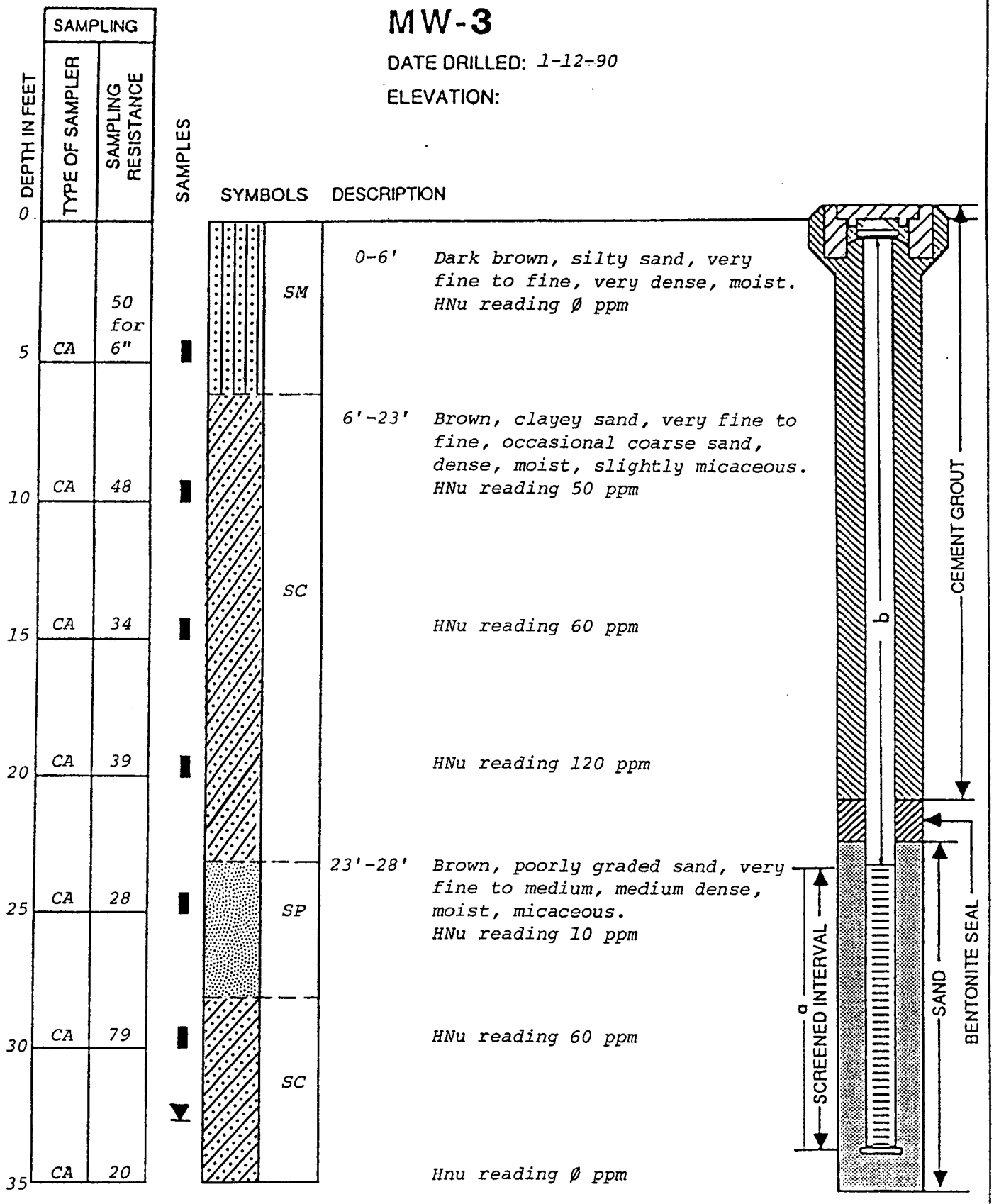
Dames & Moore

GEOTRACKER ID #:T0604700132

MW-3

DATE DRILLED: 1-12-90

ELEVATION:



a - 20 feet
b - 25 feet

LOG OF BORING

Dames & Moore

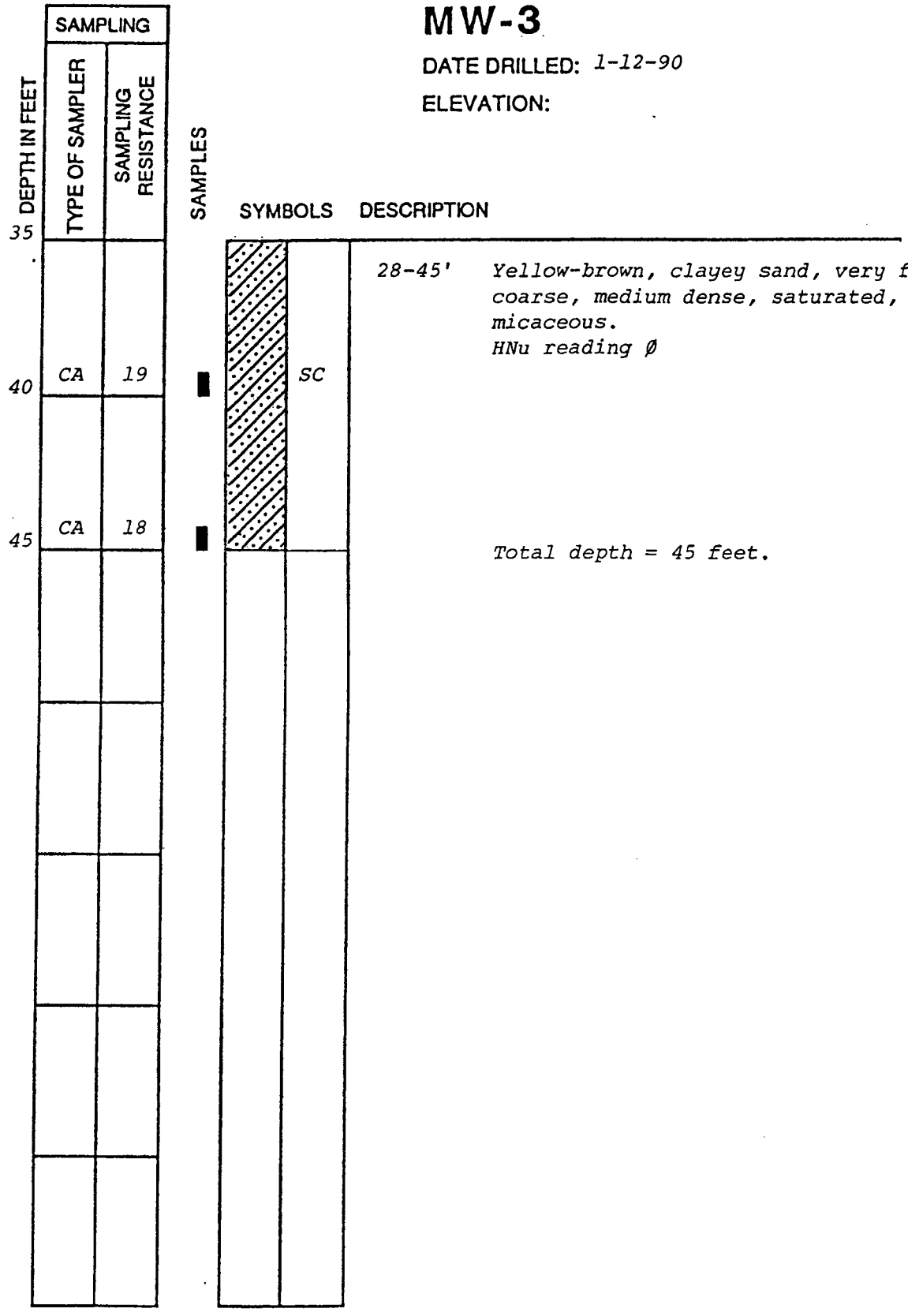
JOB NUMBER 16000-218-044

GEOTRACKER ID #:T0604700132

MW-3

DATE DRILLED: *1-12-90*

ELEVATION:



LOG OF BORING

JOB NUMBER *16000-218-044*

Dames & Moore

GEOTRACKER ID #:T0604700132

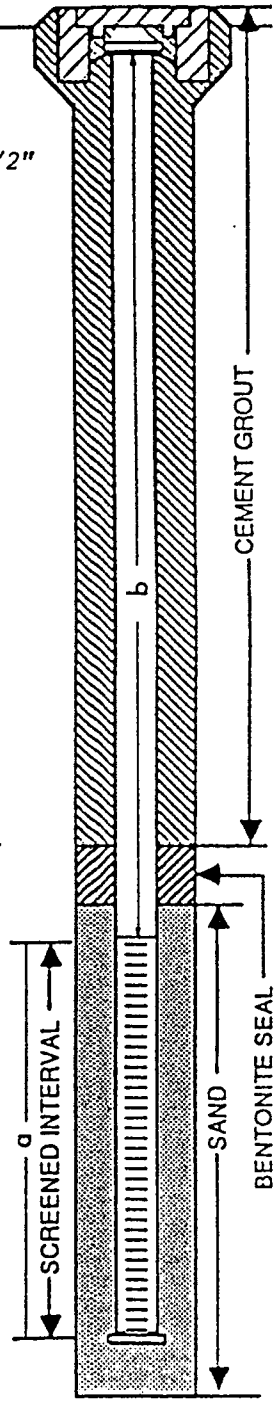
MW-4

DATE DRILLED: *1-12-90*

ELEVATION:

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0					
5	CA	35	■	SC	0-45' Brown, clayey sand, fine to medium grained, occassional 1/2" gravel, dense, moist. HNu reading Ø ppm
10	CA	36	■		
15	CA	54	■		
20	CA	53	■	SC	Brown, clayey sand, very fine to fine grained, medium dense, moist, slightly micaceous. HNu reading Ø ppm
25	CA	18	■		
30	CA	55	■		
35	CA	20	■		

a - *20 feet*
b - *25 feet*



JOB NUMBER *16000-218-044*

LOG OF BORING

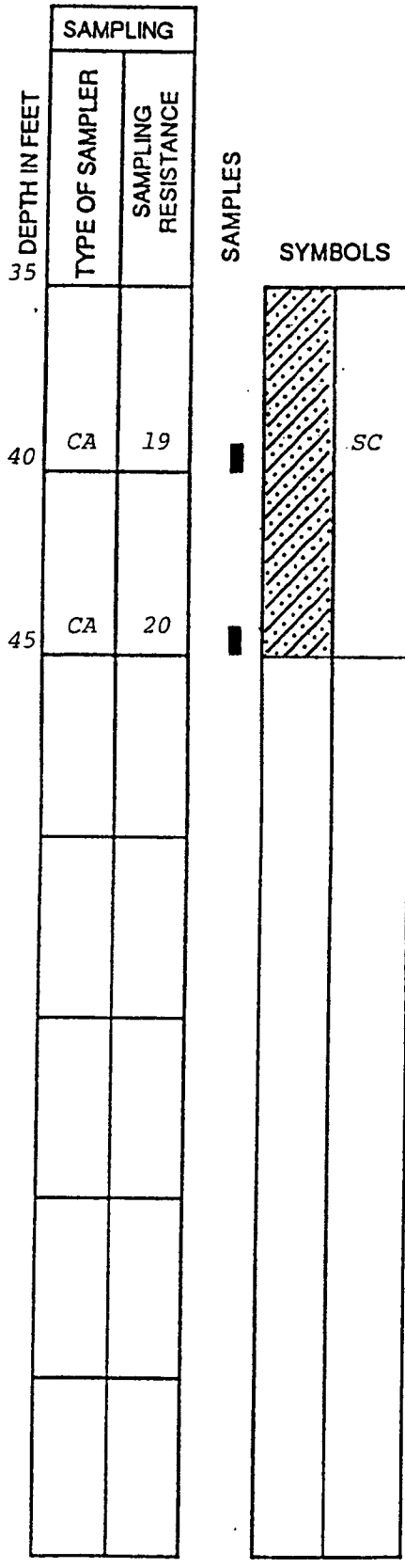
Dames & Moore

GEOTRACKER ID #:T0604700132

MW-4

DATE DRILLED: *1-12-90*

ELEVATION:



DESCRIPTION

0-45' *Brown, clayey sand, fine to coarse grained, medium dense, saturated, slightly micaceous. HNu reading Ø*

Total depth = 45 feet.

JOB NUMBER *16000-218-044*

LOG OF BORING

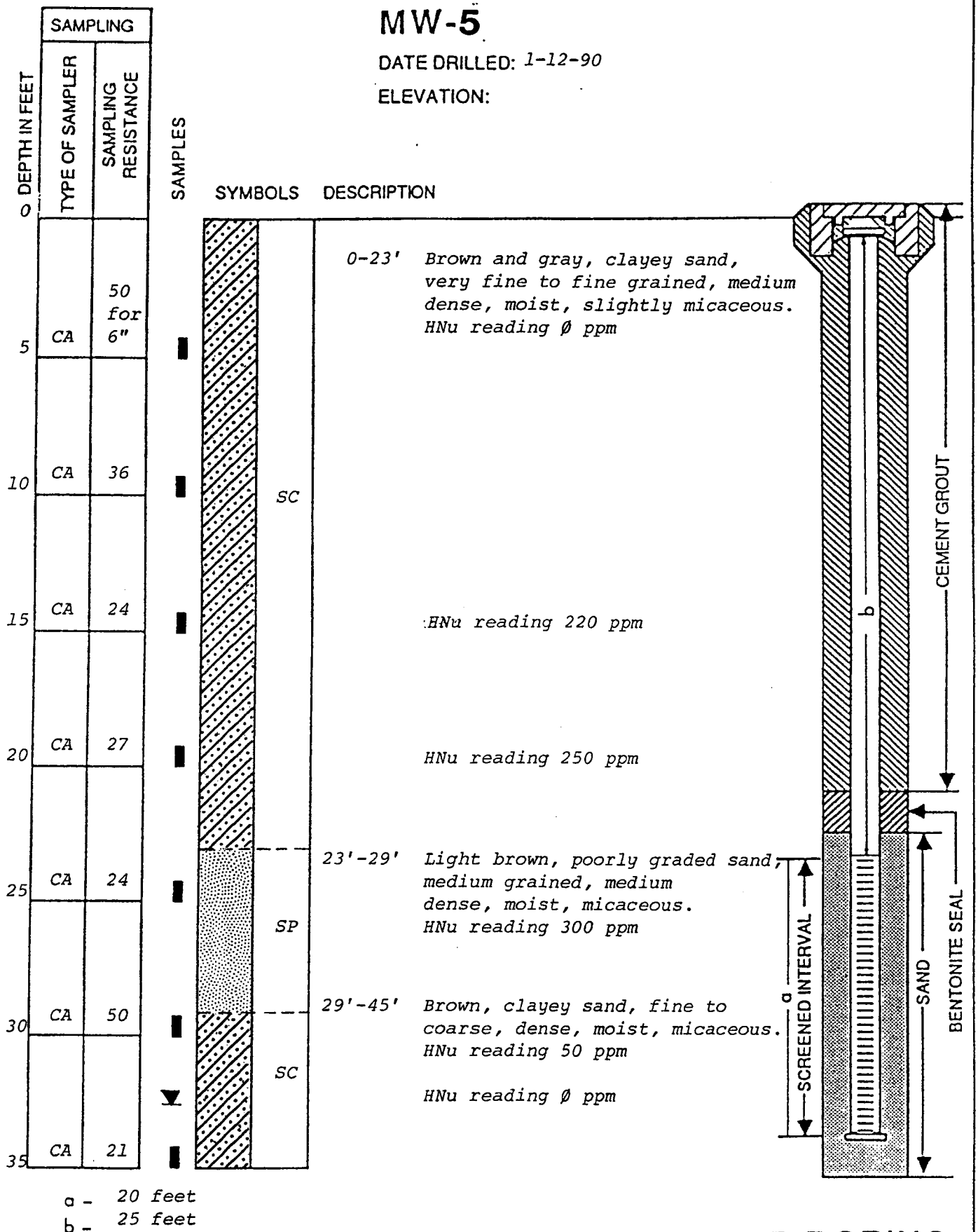
Dames & Moore

GEOTRACKER ID #:T0604700132

MW-5

DATE DRILLED: 1-12-90

ELEVATION:



a - 20 feet
b - 25 feet

LOG OF BORING

Dames & Moore

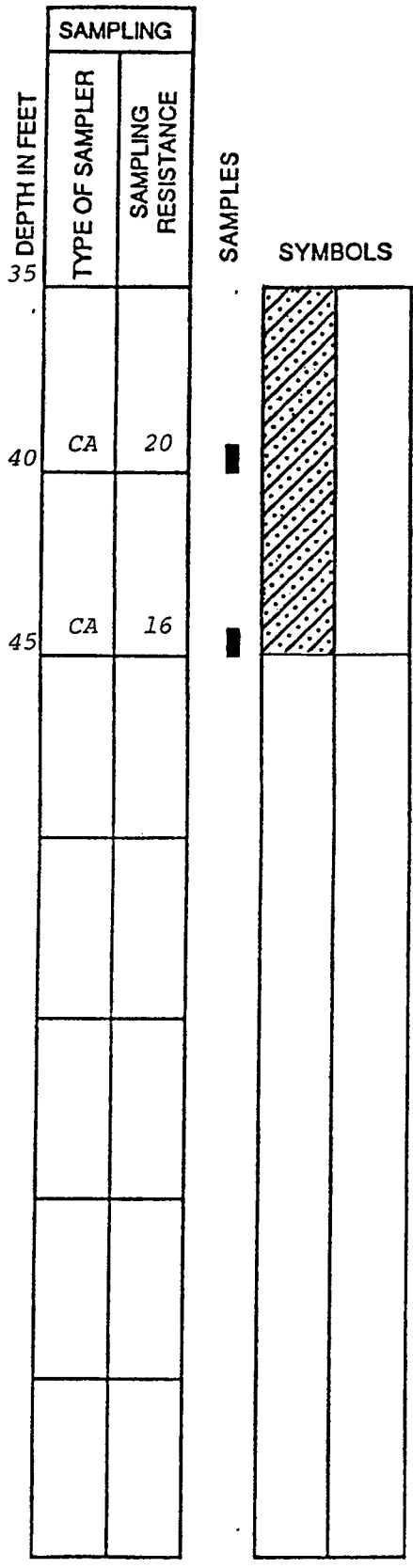
JOB NUMBER 16000-218-044

GEOTRACKER ID #:T0604700132

MW-5

DATE DRILLED: *1-12-90*

ELEVATION:



SYMBOLS DESCRIPTION

29'-45' *Yellow-brown, clayey sand, fine to coarse, medium dense, saturated, slightly micaceous.*
HNu reading Ø ppm

Total depth = 45 feet.

JOB NUMBER *16000-218-044*

LOG OF BORING

Dames & Moore

GEOTRACKER ID #:T0604700132

Herschy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

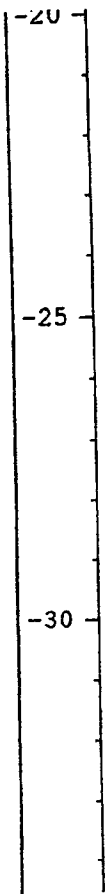
BOREHOLE NO.: **DP-1**

TOTAL DEPTH: **34.5'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Walsh & Maddox**	DRILLING CO.:	**Gregg Drilling**
SITE LOCATION:	**Merced**	SLOT SIZE:	**NA**
JOB NO.:	**A87-01.01**	CASING TYPE:	**NA**
LOGGED BY:	**W. Ackland / J. Olbinski**	METHOD OF DRILLING:	**Direct Push**
PROJECT MANAGER:	**J. Olbinski**	SAMPLING METHOD:	**Continuous Sleeve**
DATES DRILLED:	**4/27/04**	GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0			FILL: 0'-3': SAND, rusty tan, uniform, very fine-grained	NA		
		SP	3'-4': SAND, rusty tan, very fine-grained, slightly gravelly			
-5			4'-10': SAND, rusty tan, no gravel, no odor			
		SP				
-10		CL	SILT: 10'-11': (NATIVE) clayey, lt. brown, very slightly moist, stiff			
			11'-12': SILT, red brown, slightly moist, tight, no odor			
		ML	12'-13': SILT, red brown, slightly moist			
		SP	SAND: yellow brown, fine-grained, friable			
		ML	SILT: 13.5'-16': med. brown, tight, no odor, slightly moist			
-15						DP-1 15'
		ML	16'-17.5': SILT, lt.-med. brown, tight, some caliche, v. slightly moist			
		SP	SAND: yellow, fine-grained, friable, v. slightly moist			
		ML				

GEOTRACKER ID#:T0604700266



		caliche stringers, tight, v. slightly moist		
	SM	20.2'-20.8': SILT, red brown, slightly moist, tight, no odor		
	GC	SAND: silty, med. yellow brown, friable, no odor	NA	
		CLAY: gravelly, varied color, white-red brown, with caliche, tight, slightly moist, no odor		
	ML	SILT: 22'-23.5': sandy, lt. brown, slightly moist, no odor		
		23.5'-24': SILT, red brown, tight, slightly moist, slight petrol odor		DP-1 23.5'
	SP	SAND: brown, moist, fine-grained, w/ some silt		
-25	ML	SILT: 24.5'-25.5': SILT, sandy, red brown, moist, tight, odoriferous		
		25.5'-27': SILT, sandy, grey green, moist, strong odor		DP-1 26.5'
		27'-29': SILT, sandy, grey green, moist, odor reduced		
	SM	SAND: silty, grey green, saturated, moderate odor		
-30				DP-1 30.5'
		SILT: sandy, grey to med. brown, saturated		
	ML			
				DP-1 33.5'

NOTES: Soil Boring

Herschy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

BOREHOLE NO.: **DP-2**
TOTAL DEPTH: **33'**

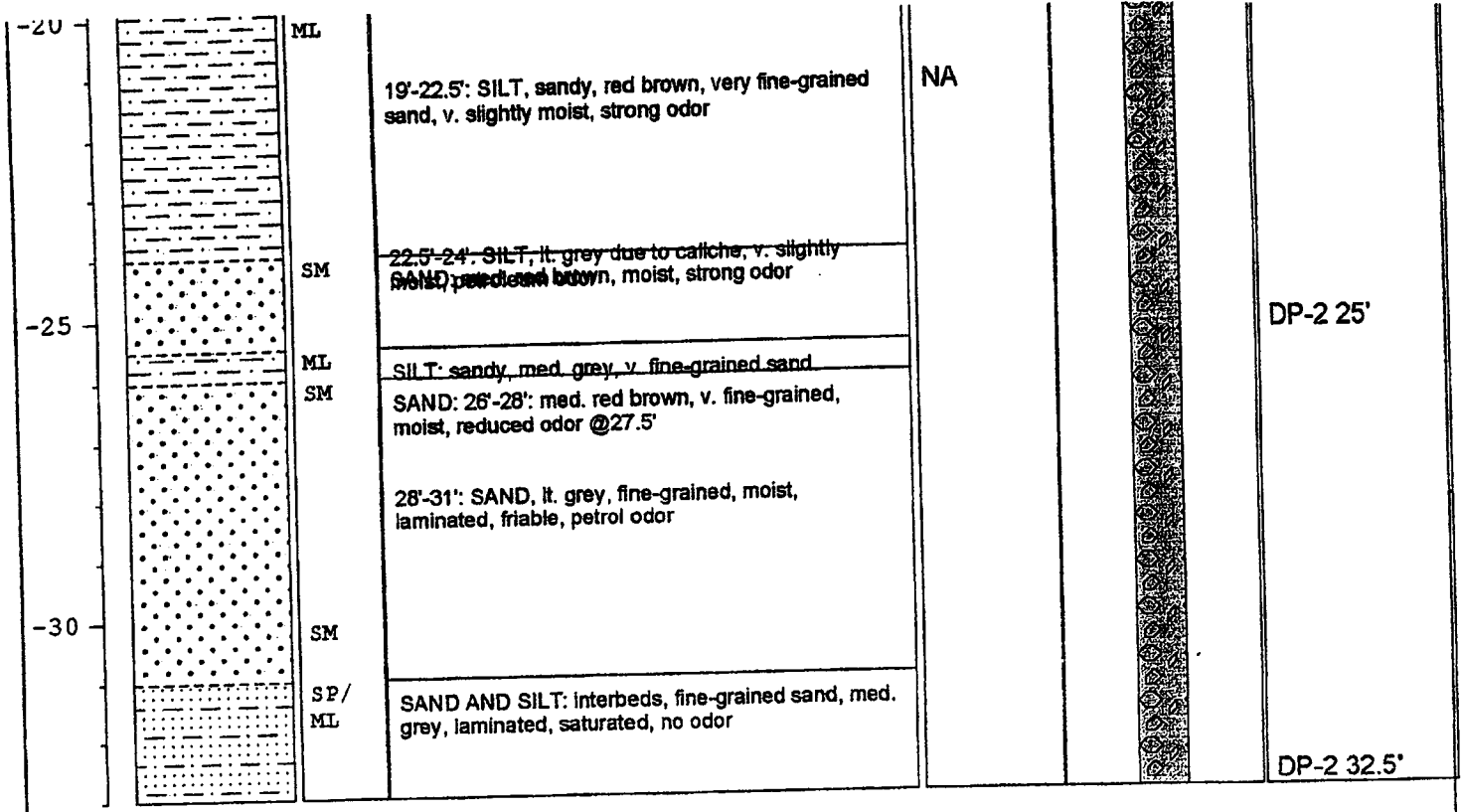
PROJECT INFORMATION

PROJECT:	**Walsh & Maddox**
SITE LOCATION:	**Merced**
JOB NO.:	**A87-01.01**
LOGGED BY:	**J. Olbinski**
PROJECT MANAGER:	**J. Olbinski**
DATES DRILLED:	**4/27/04**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Sleeve**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0			FILL: Sand, fine-grained, silt lifts, dark to med. brown			
		CH	CLAY: 1.5'-2.5': (NATIVE), black, slightly moist, stiff, slight odor	NA		
		CL	2.5'-4': CLAY, silty, dark to med. brown, very slightly moist, stiff			
-5		CL	4'-6.5': CLAY, silty, lt. brown w/ white caliche, v. slightly moist, stiff			DP-2 5'
		ML	SILT: 6.5'-7.75': sandy, dark red brown, some caliche, v. slightly moist, no odor			
			7.75'-8': SILT, lt. brown, very slightly moist, no odor			
			~~8'-8.5': Sluff from above~~			
			SILT: 8.5'-11.75': sandy, and silt, lt. yellow brown, very fine-grained sand, very slightly moist, no odor			
-10		ML	11.75'-12': SILT, yellow brown, v. slightly moist, tight, no odor			
			12'-16': SILT, med. brown, v. slightly moist, no odor			
-15		ML				DP-2 15'
			16'-18': SILT, med. brown, v. slightly moist to moist			
			18'-19': SILT, lt. grey due to caliche, v. slightly moist, tight, no odor			DP-2 19.5'



NOTES: Soil Boring

Hensley Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

BOREHOLE NO.: **DP-3**
TOTAL DEPTH: **36'**

PROJECT INFORMATION

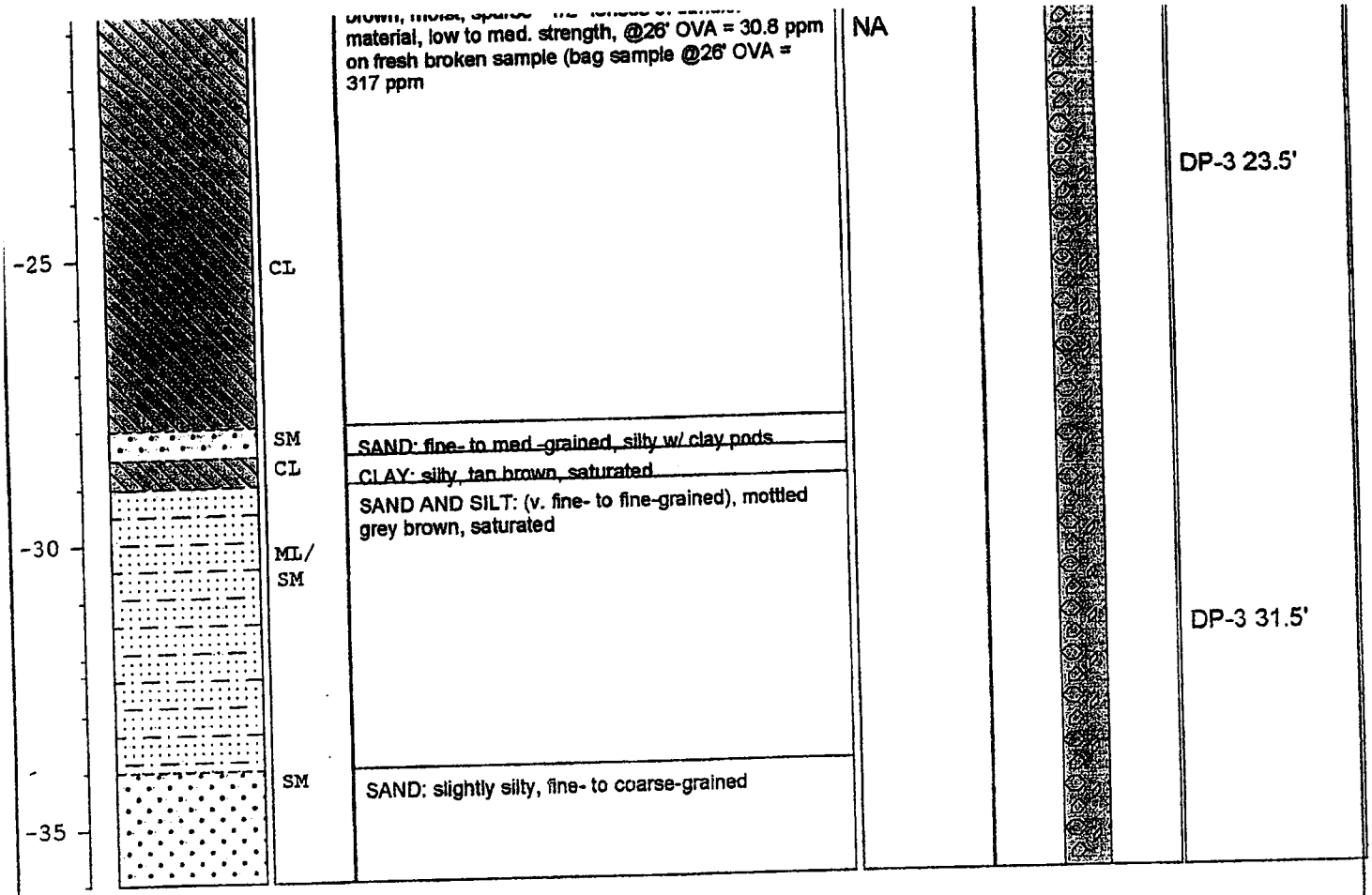
PROJECT:	**Walsh & Maddox**
SITE LOCATION:	**Merced**
JOB NO.:	**A87-01.01**
LOGGED BY:	**J. Olbinski**
PROJECT MANAGER:	**J. Olbinski**
DATES DRILLED:	**4/27/04**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Sleeve**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0		CL	ASPHALT: (asphaltic concrete) over 3/4" gravel CLAY: 0.5'-1.5': silty, black, high plasticity, v. moist, slight petrol odor 1.5'-3.2': CLAY, silty, w/ silt, med. dark brown, plastic, v. moist, some caliche	NA		
-5		ML	SILT: 3.2'-4': med. brown, s. moist to moist, slight caliche cementation 4'-8': SILT, lt. red brown, s. moist, 3% porosity			DP-3 5'
-10		ML	8'-15': SILT, lt. red brown, v. slightly clayey, moisture increase @11'			
-15		ML	15'-20': SILT, sandy, lt. rusty brown, v. fine-grained w/ sparse med.-grained sand, slightly cemented, slightly moist, @20' OVA= 14.4 ppm			DP-3 15.5'

GEOTRACKER ID#:T0604700266



NOTES: Soil Boring

Mercury Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

BOREHOLE NO.: **DP-4**
TOTAL DEPTH: **33'**

PROJECT INFORMATION

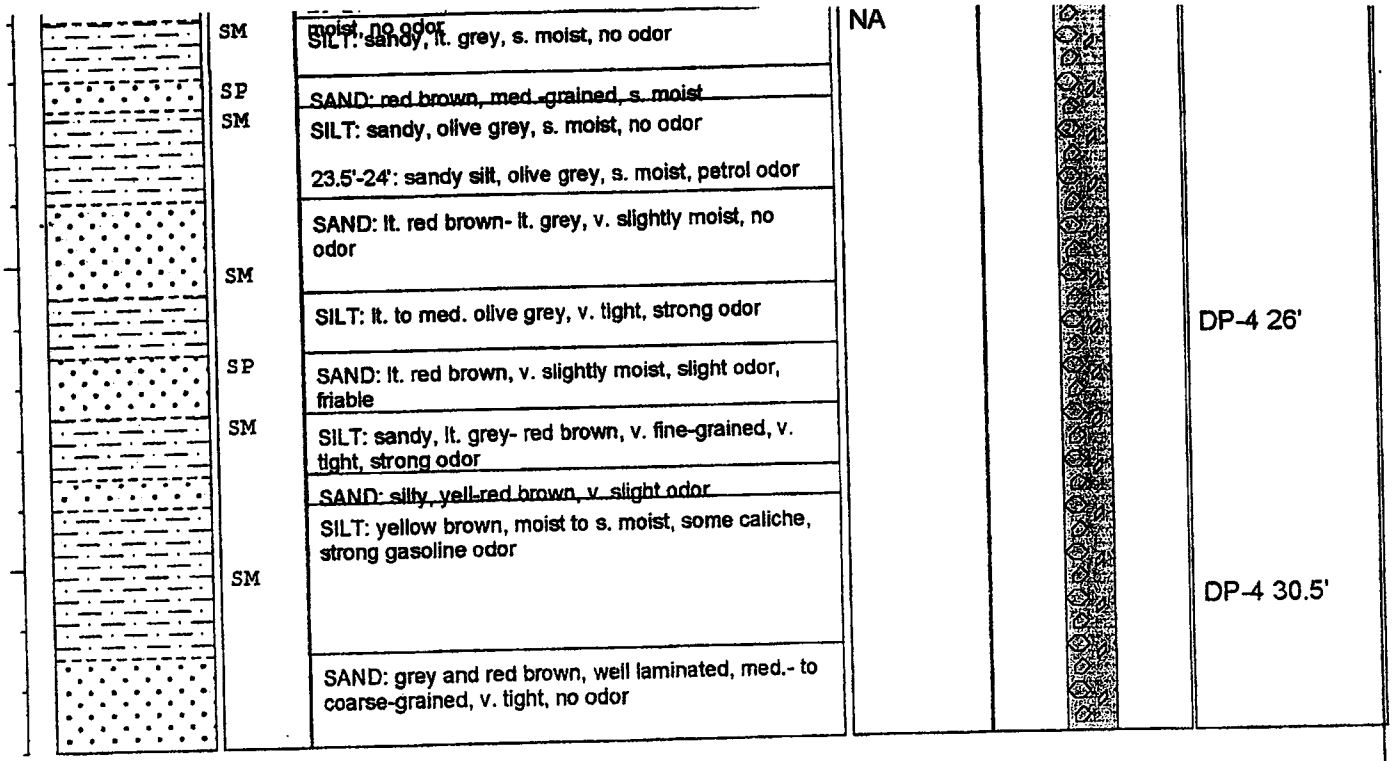
PROJECT:	**Walsh & Maddox**
SITE LOCATION:	**Merced**
JOB NO.:	**A87-01.01**
LOGGED BY:	**J. Olbinski**
PROJECT MANAGER:	**J. Olbinski**
DATES DRILLED:	**4/27/04**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Sleeve**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0		SP	SAND: med. yellow brown, moist, friable	NA		
		OL	SILT: 1'-2': dark brown, highly organic, slightly moist			
		ML	2'-6': SILT, red brown, slightly moist to moist, no odor			
-5			6'-7.5': SILT, lt. grey, dry, no odor			DP-4 5'
		ML	7.5'-8': SILT, red brown w/ white caliche veins, v. slightly moist, no odor 8'-9': Sluff			
-10		ML	9'-12': SILT, red brown, v. slightly moist, no odor			
-15		ML	12'-16': SILT, sandy silt, red brown, slightly moist, tight, no odor			DP-4 15'
		ML	SAND: 18'-19.75': silty, lt. red brown, v. slightly moist, friable, no odor 16'-17': SILT, lt. grey due to caliche, slightly moist, no odor 19.75'-20': SAND, oli			

DEPTHRACKER JOB#0604700266



NOTES: Soil Boring

Herscy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

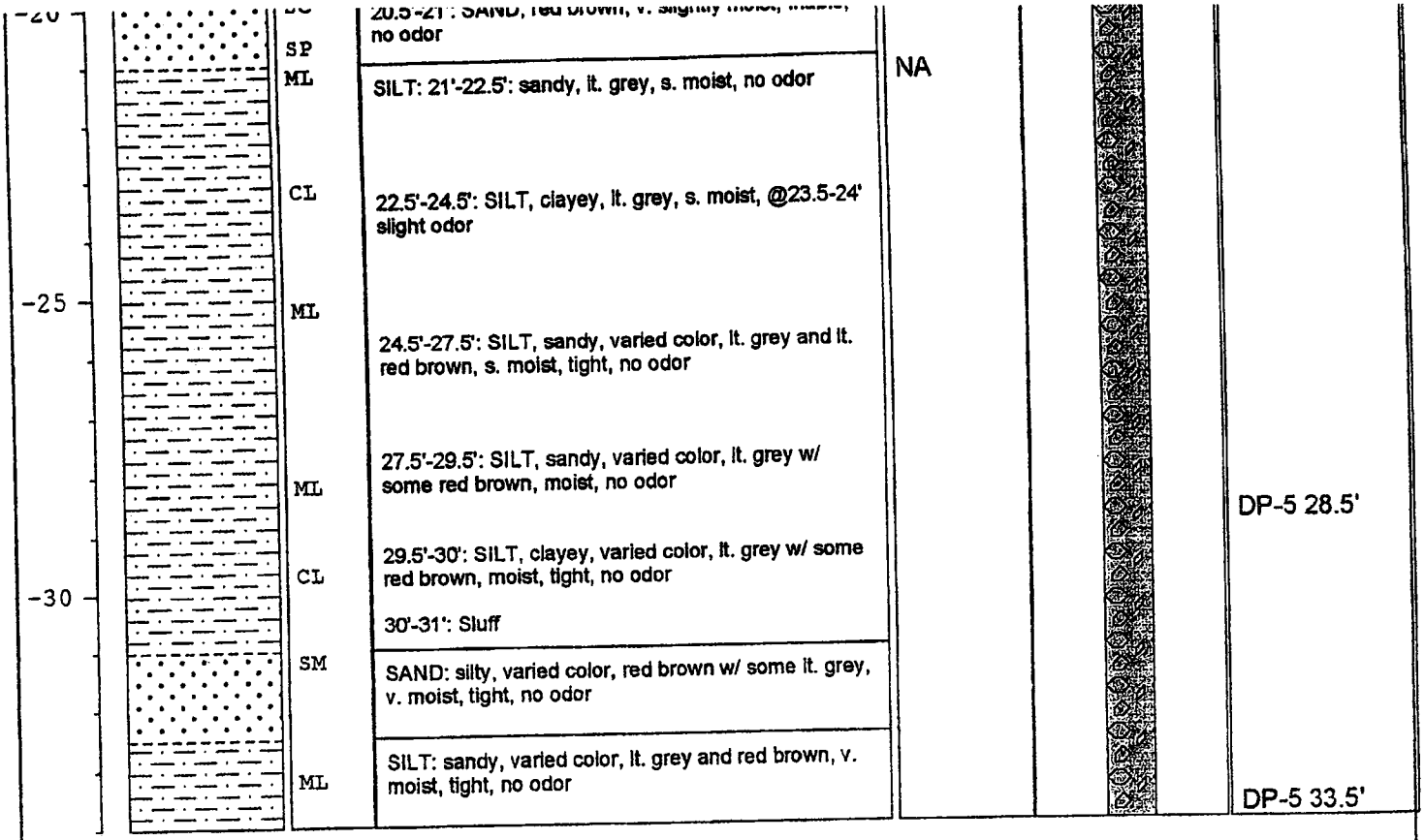
BOREHOLE NO.: **DP-5**

TOTAL DEPTH: **34'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Walsh & Maddox**	DRILLING CO.:	**Gregg Drilling**
SITE LOCATION:	**Merced**	SLOT SIZE:	**NA**
JOB NO.:	**A87-01.01**	CASING TYPE:	**NA**
LOGGED BY:	**J. Olbinski**	METHOD OF DRILLING:	**Direct Push**
PROJECT MANAGER:	**J. Olbinski**	SAMPLING METHOD:	**Continuous Sleeve**
DATES DRILLED:	**4/28/04**	GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0		SM	SAND: silty, yellow brown, moist, friable	NA		
			SILT: 1'-3.5': sandy, med. brown, slightly moist			
		ML	3.5'-4': SILT, yellow, dry			
-5			4'-8': SILT, lt. brown, v. slightly moist, no odor			DP-5 5'
			8'-12': SILT, lt. brown, v. slightly moist, tight, caliche at 9.75'			
-10		ML	12'-13.5': SILT, sandy, yellow red brown, v. slightly moist, no odor			
			13.5'-15': SILT, lt. grey brown, v. slightly moist, no odor			
		ML	15'-16': SILT, lt. grey brown, v. slightly moist, slight odor			
-15			16'-16.5': SILT, clayey, lt. grey brown, v. slightly moist, slight odor			DP-5 15'
		CL				
		SM	SAND: 16.5'-19.25': silty, varied color, lt. red brown lt. grey, v. slightly moist, tight, no odor			
			19.25'-19.5': SAND and gravel, lt. grey, v. slightly moist, no odor			
		GP	19.5'-20.5': SAND, clayey, lt. grey & red brown, v. slightly moist, no odor			

GEOTRACKER ID#:T0604700266



NOTES: Soil Boring

HerSchy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

BOREHOLE NO.: **DP-6**

TOTAL DEPTH: **34'**

PROJECT INFORMATION

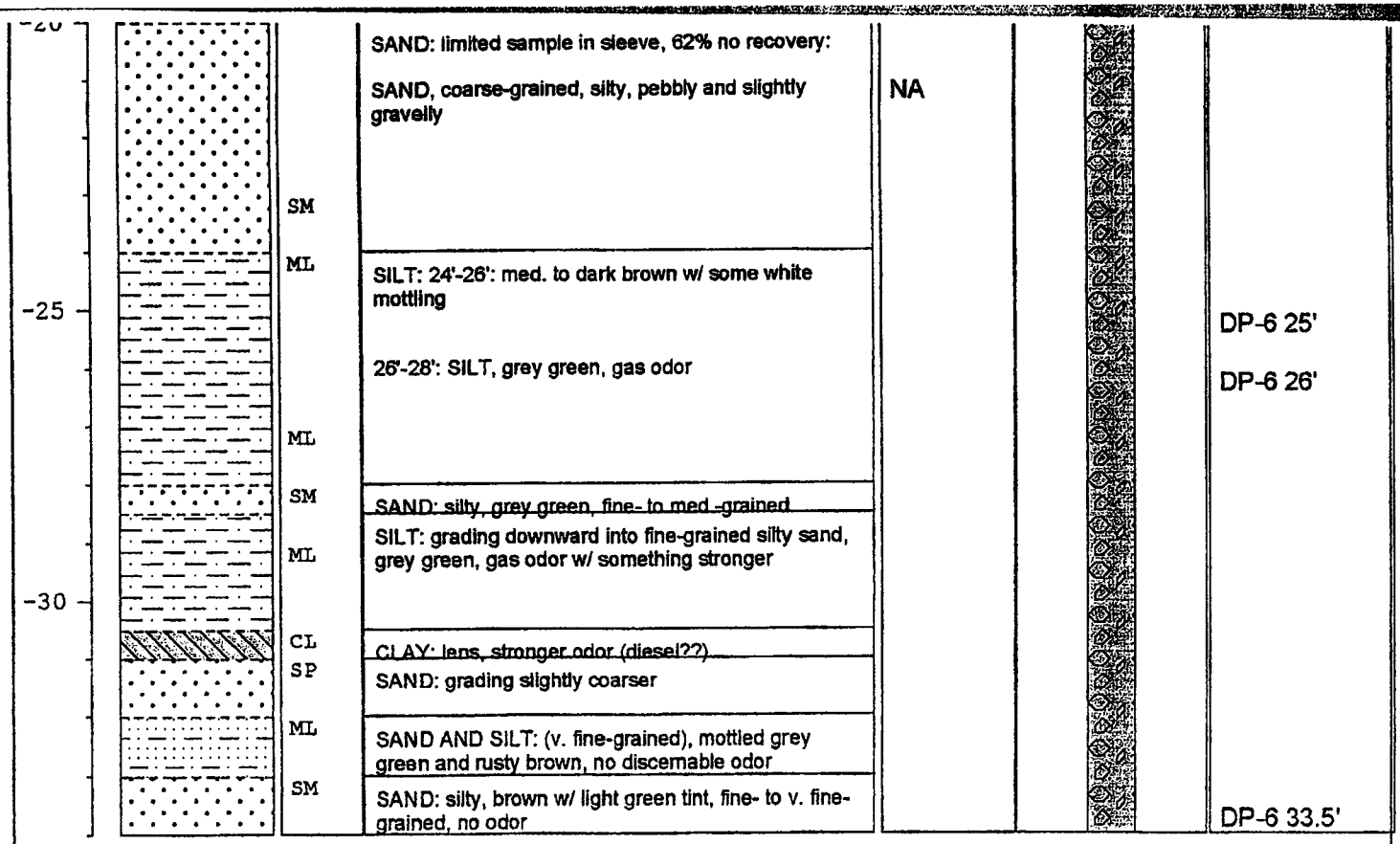
PROJECT:	**Walsh & Maddox**
SITE LOCATION:	**Merced**
JOB NO.:	**A87-01.01**
LOGGED BY:	**J. Olbinski**
PROJECT MANAGER:	**J. Olbinski**
DATES DRILLED:	**4/27/04**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Sleeve**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	BLOW COUNT	BORING COMPLETION	SAMPLE
0			FILL			
		CL	CLAY: (NATIVE), silty, dark brown, med. to low-strength, v. slightly moist	NA		
-5		ML	SILT: rusty tan w/ white mottling, no odor			DP-6 5'
		SM	SAND: silty, rusty tan, v. fine- to fine-grained			
-10		ML	SILT: 10'-12': rusty tan w/ white mottling, weakly cemented, no odor			DP-6 12'
		ML	12'-16': SILT, rusty tan w/ white mottling, no odor, only one foot of recovery, possible rock ahead of core barrel compressing soil			
-15			sample and sleeve stuck in core barrel, no recovery			

GEOTRACKER ID#:T0604700266



NOTES: Soil Boring

ENVIRONMENTAL

irwin

2750 Signal Pkwy.
Long Beach, CA 90806

BORING LOG

Drill Rig: BK-81 V&W	Date Drilled: 3-4-96	Logged By: MIKE LUKSIC
Boring Dia: 11.5"	Boring Number: MW-2	

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
						SM	PAVEMENT
							Dark brown, SANDY SILT, moist, nonplastic, no odor, PID=0.
	27-50/4	5					Dark brown, SANDY SILT, dry, no odor, nonplastic, very dense, PID=0.
	10-14-18	10					Light brown, SANDY SILT, dry, 10% gravel to 2-inch diameter, nonplastic, loose, PID=0.
	16-17-26	15				ML	Light brown, CLAYEY SILT, with white thin lenses, dry, medium plastic, medium dense, no odor, PID=0.
	19-35-50	20					
	20-36-50 /4	25					Light brown, CLAYEY SILT WITH SAND LENSES, medium plastic, dry, medium dense, no odor, PID=0.
	18-30-50	30					Ground water encountered at 29 feet. Light brown, CLAYEY SILT WITH SAND LENSES, wet, medium dense, medium plastic, no odor, PID=0.
		35					
		40					
		45					TOTAL DEPTH = 48 FEET

Completion Notes:

4" Sch. 40, 0.020" slotted, PVC casing from 26 to 47.5 feet; 4" Sch. 40, blank, PVC casing from 0 to 26 feet; #3 Monterey sand from 24 to 47.5 feet; Bentonite chips from 21 to 24 feet; Portland cement from 0 to 21 feet.

SITE:

R. GLASS COMPANY
1520 G STREET
MERCED, CALIFORNIA

Project No. 33264.00

GEOTRACKER ID#:T0604700266

ENVIRONMENTAL
irwin
2750 Signal Pkwy.
Long Beach, CA 90806

BORING LOG

Drill Rig:	Date Drilled:	Logged By:
BK-81 V&W	3-4-96	MIKE LUKSIC
Boring Dia: 11.5"	**Boring Number:** MW-3	

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
						ML	PAVEMENT
							Light brown, SANDY SILT, moist, nonplastic, medium dense, no odor, PID=0.
	18-22-31	5					
						SM	Light brown, SILTY SAND, moist, nonplastic, medium dense, no odor, PID=0.
	15-21-40	10					
						ML	
	19-23-36	15					Light brown, clayey silt, moist, medium plastic, medium dense, no odor, PID=0.
	14-28-31	20					Light brown, clayey silt, dry, medium plastic, medium dense, no odor, PID=0.
	31-34-45	25					Light brown with mottled green, moist, medium plastic, medium dense, no odor, PID=0.
	31-50/6	30					Ground water encountered at 29 feet. Light brown with mottled green, wet, very dense, medium plastic, no odor, PID=0.
		35					
		40					
		45				SM	Light brown, SILTY SAND, heaving sands in thin lense.
							TOTAL DEPTH = 48 FEET

Completion Notes:

4" Sch. 40, 0.020" slotted, PVC casing from 22.5 to 48 feet; 4" Sch. 40, blank, PVC casing from 0 to 22.5 feet; #3 Monterey sand from 20.5 to 48 feet; Bentonite chips from 17.5 to 20.5 feet; Portland cement from 0 to 17.5 feet.

SITE:

R. GLASS COMPANY
1520 G STREET
MERCED, CALIFORNIA

Project No. 33264.00

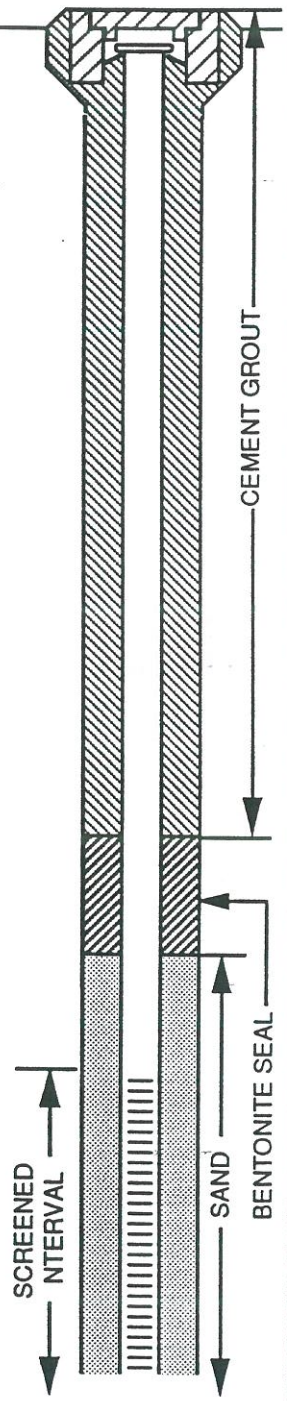
GEOTRACKER ID#:T0604700266

MW-1

DATE DRILLED: 7/3/90

ELEVATION: 172.73 Feet

DEPTH IN FEET	SAMPLING TYPE OF SAMPLER	SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	CA	14		CL	DARK BROWN CLAY with minor silt, occasional black staining, trace brick fragments [FILL]
	CA	50/6"			
5	CA	50/6"		ML	DARK BROWN SANDY SILT with fine sand, abundant black mottling (dry) (hard) [HARDPAN]
	CA	50/5"			
	CA	95/ 10"			Grades greenish gray with moderate hydrocarbon odor
10	CA	85/ 11"			Grades with more brown; decrease in hydrocarbon odor
15	CA	58		SP	BROWN SAND, fine to medium, with minor silt; subangular grains; slight hydrocarbon odor (dry) (very dense) [HARDPAN]
20	CA	50/4"			Grades with olive-gray color, angular fine gravel
25	CA	50/2"			
30	CA	50/4"			Grades with slightly less gravel
35					



Boring Log continues on next page

LOG OF BORING

Dames & Moore

160-262-043

PLATE A-18

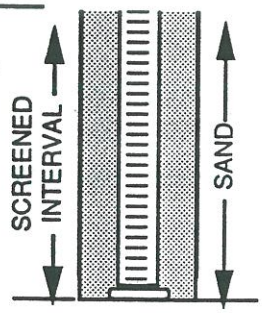
GEOTRACKER ID#:T0604700090

MW-1 (continued)

DATE DRILLED: 7/3/90

ELEVATION: 172.73 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
35	CA	50/6"		SM	BROWN SILTY SAND, fine (moist to saturated) (very dense) [HARDPAN]
40	CA	50/6"		CL	BROWN SILTY CLAY with abundant iron oxide staining and black mottling (dry) (hard)
45	CA	50/1"			
50					
55					
60					
65					
70					



NOTES:

1. Boring completed at a depth of 48.5 feet on 7/3/90.
2. 4-inch PVC observation well installed to a depth of 42.0 feet; screened interval from 27.0 to 42.5 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-22.

LOG OF BORING

Dames & Moore

GEOTRACKER ID#:T0604700090

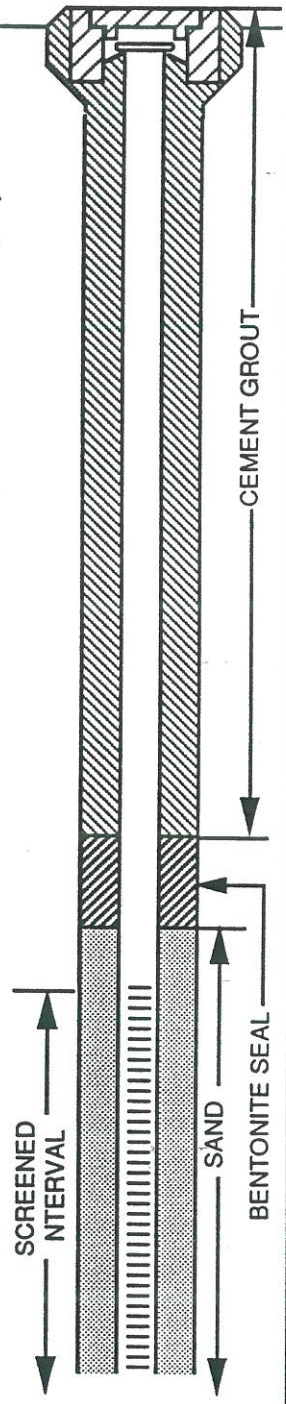
MW-2

DATE DRILLED: 7/2/90

ELEVATION: 172.02 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	CA	64		CL	DARK GRAY CLAY with trace of silt, trace black stain (dry) (hard) [FILL]
	CA	50/5"			
5	CA	50/3"		CL	BROWN CLAY, decrease in black staining [FILL]
	CA	50/5"		SP	BROWN GRAVELLY SAND with minor silt (dry) (very dense) [HARDPAN]
	CA	50/5"			Grades to yellowish red
10	CA	50/6"		SM	BROWN TO YELLOWISH RED SILTY SAND, fine, abundant white staining [HARDPAN]
15	CA	50/3"			
20	CA	50/5"			Grades to greenish gray with more silt; slight odor
25	CA	93/ 11"			
30	CA	81			Grades yellowish red (moist)
35					

Boring Log continues on next page



LOG OF BORING

Dames & Moore

160-262-043

PLATE A-19

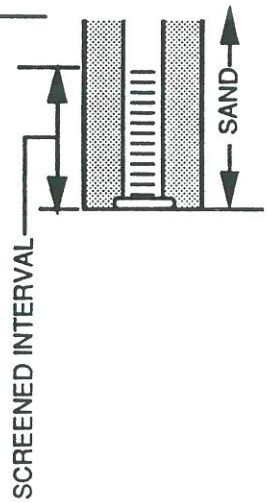
GEOTRACKER ID#:T0604700090

MW-2 (continued)

DATE DRILLED: 7/3/90

ELEVATION: 172.02 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
35	CA	50/1"		SP	DARK GRAY TO BROWN SAND, fine to coarse with abundant quartz, subangular grains (sarturated)
40	CA	77/8"			
45	CA	50/5"		CL	GREENISH GRAY SILTY CLAY with abundant iron oxide staining
50					
55					
60					
65					
70					



NOTES:

1. Boring completed at a depth of 48.5 feet on 7/3/90.
2. 4-inch PVC observation well installed to a depth of 40.0 feet; screened interval from 25.0 to 40.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-22.

LOG OF BORING

Dames & Moore

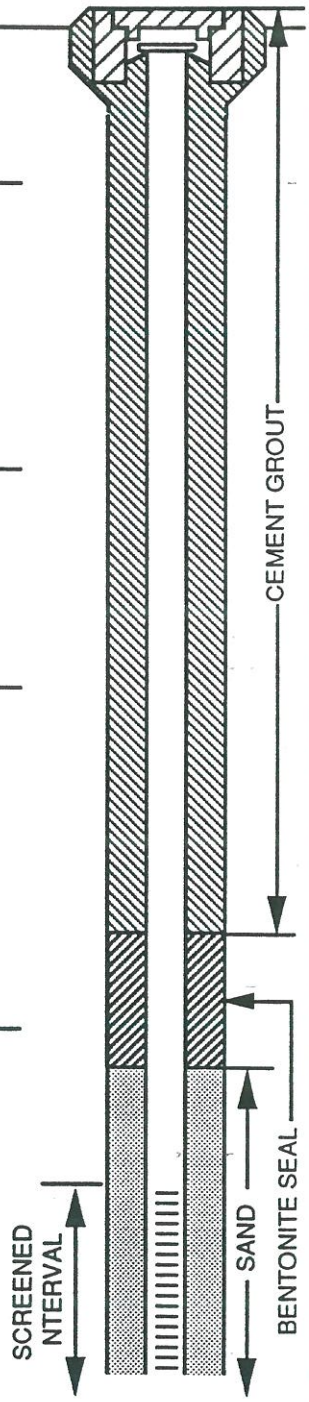
GEOTRACKER ID#:T0604700090

MW-3

DATE DRILLED: 6/27/90

ELEVATION: 170.81 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	CA	35		CL	DARK BROWN CLAY with occasional rock fragments (dry) (hard) [FILL]
	CA	50/6"		SP	BROWN GRAVELLY SAND, fine, with abundant white staining [HARDPAN]
5	CA	50/4"			Grades to dark brown silty sand mith minor clay layer
	CA	50/4"			
	CA	50/6"			
10	CA	54		SC	BROWN CLAYEY SAND with minor gravel
15	CA	50/4"		CL	BROWN SANDY CLAY
20	CA	50/6"			
25	CA	50/4"		SP	BROWN SAND, fine
30	CA	77/11"		▽	Grades with some silt and black mottling (moist)
35					



Boring Log continues on next page

LOG OF BORING

Dames & Moore

160-262-043

PLATE A-20

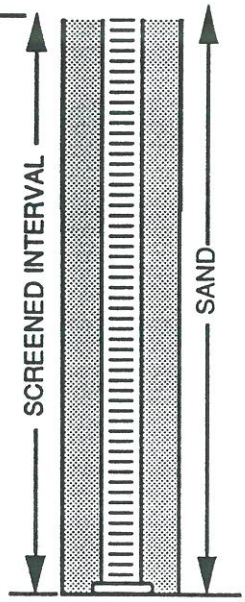
GEOTRACKER ID#:T0604700090

MW-3 (continued)

DATE DRILLED: 6/27/90

ELEVATION: 170.81 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
35	CA	—			Grades to fine silty sand
40	CA	—		SM	BROWNISH ORANGE SILTY SAND, fine, with abundant black mottling and iron oxide staining
	CA	70			
45	CA	50/6"		SP SM	BROWNISH ORANGE SAND TO SILTY SAND
	CA	70			
50	CA	75/ 11"		CH	GREENISH GRAY CLAY with occaional silt and trace red-brown clay
	CA	32			Grades with slight increase in red-brown clay, decrease in silt
55	CA	50			
60					
65					
70					



NOTES:

1. Boring completed at a depth of 56.5 feet on 7/3/90.
2. 4-inch PVC observation well installed to a depth of 50.0 feet; screened interval from 30.0 to 50.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-22.

LOG OF BORING

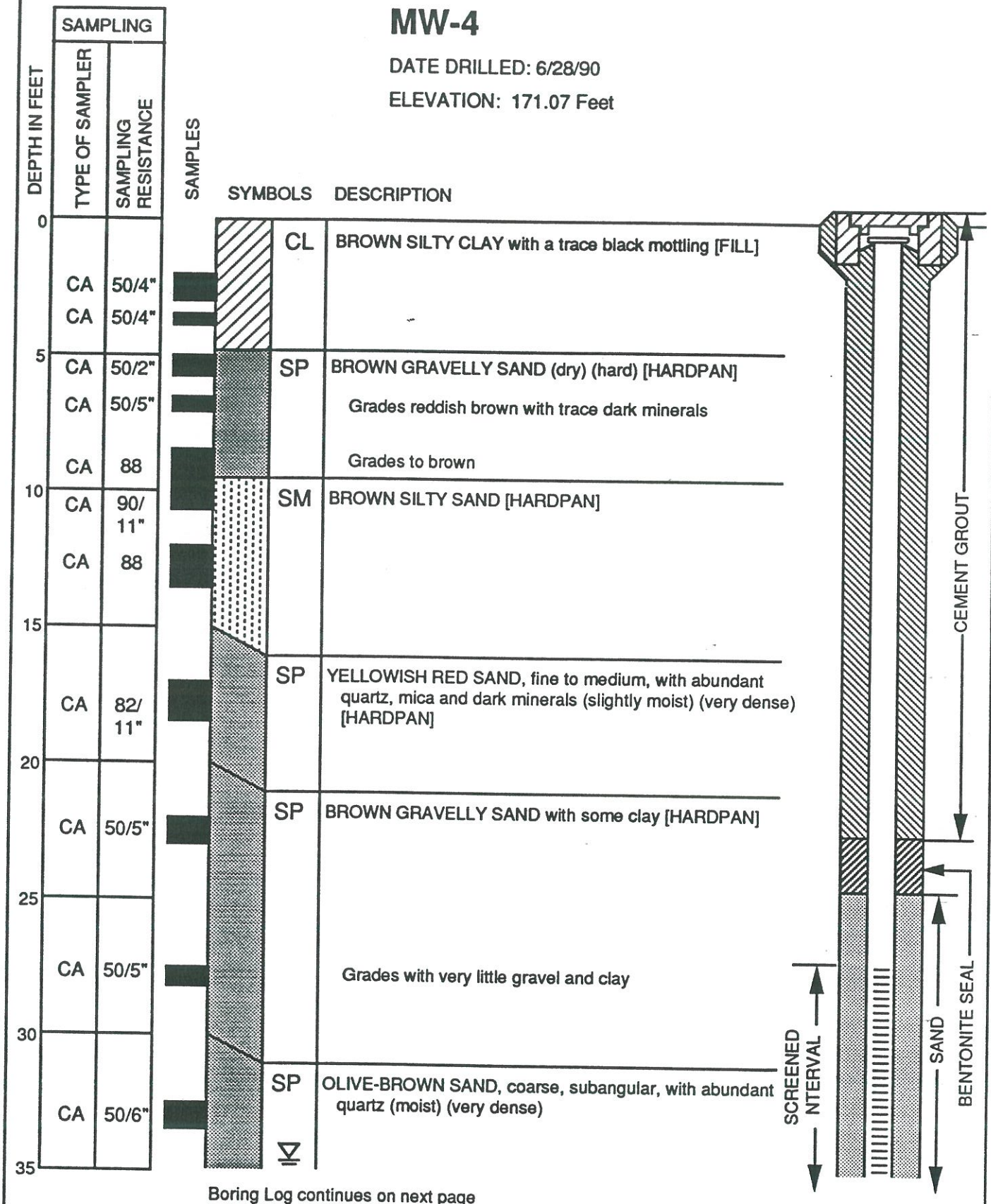
Dames & Moore

GEOTRACKER ID#:T0604700090

MW-4

DATE DRILLED: 6/28/90

ELEVATION: 171.07 Feet



Boring Log continues on next page

LOG OF BORING

Dames & Moore

160-262-043

PLATE A-21

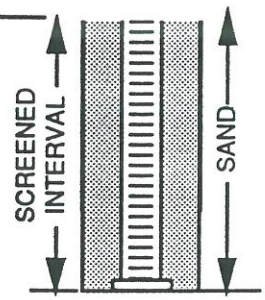
GEOTRACKER ID#:T0604700090

MW-4 (continued)

DATE DRILLED: 6/28/90

ELEVATION: 171.07 Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
35	CA	67/ 11"			Grades yellowish red (saturated)
40	CA	53		CL	GREENISH GRAY SILTY CLAY with trace black mottling (slightly moist)
45	CA	90/8"			Decreasing silt, increasing black mottling
50	CA	50/5"			
	CA	50/2"			
55					
60					
65					
70					



NOTES:

1. Boring completed at a depth of 55.0 feet on 6/28/90.
2. 4-inch PVC observation well installed to a depth of 42.0 feet; screened interval from 27.0 to 42.0 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-22.

LOG OF BORING

Dames & Moore

GEOTRACKER ID#:T0604700090

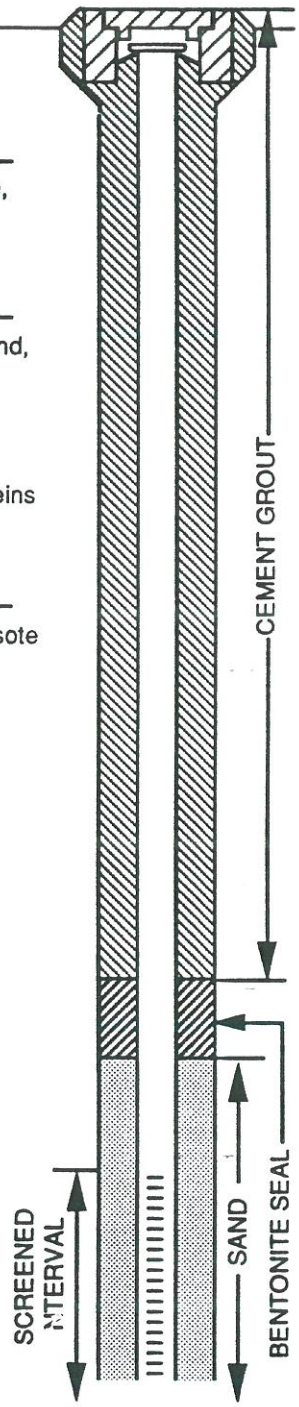
MW-5

DATE DRILLED: 9/19/90

ELEVATION: — Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
0	CA	69		SP	BROWN SAND, medium to coarse, subrounded (moist) (very dense) [FILL]
	CA	50/6"		SM	DARK BROWN SILTY SAND with abundant black residue, moderate creosote odor (dry) (very dense) [FILL]
5	CA	50/5"			
	CA	50/6"		ML	BROWN TO DARK BROWN CLAYEY SILT with minor sand, strong creosote odor [HARDPAN]
	CA	50/4"			
	CA	50/5"			
10	CA	50/2"			Grades greenish gray, sandier, with occasional white veins
15	CA	50/4"		SM	GREENISH GRAY TO BROWN SILTY SAND, slight creosote odor [HARDPAN]
20	CA	50/3"			Grades more greenish gray, trace black residue, slight increase in grain size
25	CA	50/3"			Grades with less silt
30	CA	50/5"			Grades very silty , with clay
35					

Boring Log continues on next page



LOG OF BORING

Dames & Moore

160-262-043

PLATE A-22

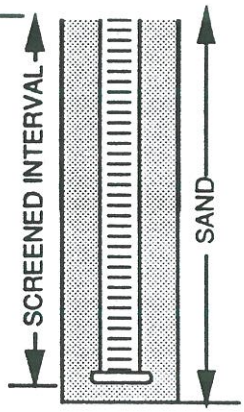
GEOTRACKER ID#:T0604700090

MW-5 (continued)

DATE DRILLED: 9/19/90

ELEVATION: — Feet

DEPTH IN FEET	SAMPLING: TYPE OF SAMPLER	SAMPLING: SAMPLING RESISTANCE	SAMPLES	SYMBOLS	DESCRIPTION
35	CA	50/3"			Grades with less silt, no clay
40	CA	50/3"			Grades very clayey
	CA	50/2"		CL	GREENISH GRAY SILTY CLAY with sand (moist) (hard)
45					
50					
55					
60					
65					
70					



NOTES:

1. Boring completed at a depth of 45.5 feet on 9/19/90.
2. 4-inch PVC observation well installed to a depth of 44.5 feet; screened interval from 29.0 to 44.5 feet.
3. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after sampler has been seated 6 inches.
4. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.
5. For an explanation of terms used see the Soils Classification Chart and Key to Test Data, Plate A-23.

LOG OF BORING

Dames & Moore

GEOTRACKER ID#:T0604700090

MALCOLM PIRNIE

LOG OF BORING MW-6

Pacific Gas and Electric Company
Merced Service Center
560 W. 15th Street
Merced, California

Date Started	: 7/21/04	Company Rep.	: Malcolm Pirnie
Date Completed	: 7/21/04	Northing Coord.	:
Hole Diameter	: 10 inch	Easting Coord.	:
Drilling Method	: Hollow stem auger	Survey By	: PG&E
Sampling Method	: Continuous Core	Logged By	: Mary Morkin

Depth in Feet	Surf. Elev.	Coring Interval	Recov.	DESCRIPTION	USCS	GRAPHIC	REMARKS/SAMPLES
0				SILT (sand 5%, fines 95%), 7.5 YR 4/4, very fine grained, trace very fine sand, dry & crumbly			
1							Hand augered from 0 to 5 ft bgs
2		1			ML		
3							
4							
5		2	12"/18"	SILT (sand 5%, fines 95%), 7.5 YR 5/3, very fine grained, trace very fine sand, very stiff to hard, mottled, discrete oxidized stringers, dry			Blow counts: 32, 36, 39
6		3	14"/18"		ML		Blow counts: 16, 19, 24
7							
8		4	12"/18"	SANDY SILT (sand 10%, fines 90%), 7.5 YR 4/4 - same as above, slightly increased very fine sand content	ML		Blow counts: 8, 9, 15 Soil sample - MW6-8
9							
10		5	12"/18"	SILT (sand 5%, fines 95%), 7.5 YR 4/4, very fine grained, trace very fine sand, slightly mottled, will crumble, dry to moist			Blow counts: 8, 10, 13
11		6	18"/18"		ML		Blow counts: 14, 15, 20
12							

09-14-2004 P:\4914\003-Merced\reports\Q3 - Sept 04\MW-6.BOR

GEOTRACKER ID#:T0604700090

MALCOLM PIRNIE

LOG OF BORING MW-6

Pacific Gas and Electric Company
Merced Service Center
560 W. 15th Street
Merced, California

Date Started	: 7/21/04	Company Rep.	: Malcolm Pirnie
Date Completed	: 7/21/04	Northing Coord.	:
Hole Diameter	: 10 inch	Easting Coord.	:
Drilling Method	: Hollow stem auger	Survey By	: PG&E
Sampling Method	: Continuous Core	Logged By	: Mary Morkin

Depth in Feet	Surf. Elev.	Coring Interval	Recov.	DESCRIPTION	USCS	GRAPHIC	REMARKS/SAMPLES
12		6	18"/18"		ML		
				SILT (sand 5%, fines 95%), 5 YR 6/2 to 5/4, very fine grained, trace very fine sand, obvious layering on a centimeter scale and distinguished by color - 6/2 to 5/4, in 6/2 layer white stringers are present (calcite deposits?), mottled, dry to moist			Blow counts: 16, 16, 22
13		7	18"/18"		ML		
14		8	18"/18"	Color change to 5 YR 4/2 to 4/3, coal chunks present (diameter <0.5 cm), mottled, stiff, discrete sand stringers	ML		Blow counts: 25, 29, 32
15							
16		9	12"/18"	SILT (sand 5%, fines 95%), 7.5 YR 4/4, very fine grained, stiff, massive, discrete oxidized stringers, dry	ML		Blow counts: 11, 11, 17
17		10	12"/18"				Blow counts: 10, 10, 22 Soil sample - MW6-17
18							
				SILT (sand 10%, fines 90%), 7.5 YR 4/4, very fine grained silt, massive, mottled	ML		Blow counts: 12, 12, 19
19		11	12"/18"	SANDY SILT to a SILTY SAND (sand 50%, fines 50%), increasing fine sand content, salt and pepper color, unit marked with a thin coal seam at 19.5 feet, loose, dry to moist	SM		
20				SAND, (sand 80%, fines 20%), salt and pepper color, fine grained, poorly graded, loose, dry to moist	SP		Blow counts: 8, 8, 25
		12	12"/18"	SILT (fines 100%), 2.5 YR 5/3, very fine grained, stiff, massive, mottled, discrete whte stringers, crumles and dry			
21							Blow counts: 15, 21, 30
22		13	14"/18"		ML		
23							Blow counts: 25, 28, 39
		14	14"/18"				
24							

09-14-2004 P:\491\4\003-Merced\reports\Q3 - Sept 04\MW-6.BOR

MALCOLM PIRNIE

LOG OF BORING MW-6

Pacific Gas and Electric Company
Merced Service Center
560 W. 15th Street
Merced, California

Date Started	: 7/21/04	Company Rep.	: Malcolm Pirnie
Date Completed	: 7/21/04	Northing Coord.	:
Hole Diameter	: 10 inch	Easting Coord.	:
Drilling Method	: Hollow stem auger	Survey By	: PG&E
Sampling Method	: Continuous Core	Logged By	: Mary Morkin

Depth in Feet	Surf. Elev.	Coring Interval	Recov.	DESCRIPTION	USCS	GRAPHIC	REMARKS/SAMPLES
24		14	14"/18"	Increasing fine sand content (sand 15%, fines 85%), 5 YR 5/3, crumbles, dry	ML		Blow counts: 33, 34, 39
25		15	15"/18"				
26		16	12"/18"		ML		Blow counts: 24, 29, 33
27							
28		17	18"/18"	SILT (sand 5%, fines 95%), very fine grained, crumbles but with slight plasticity, moist			Blow counts: 15, 17, 23
29		18	18"/18"		ML		Blow counts: 14, 23, 24 Soil sample - MW6-29
30							
31		19	14"/18"	SILT (sand 5%, fines 95%), 10 YR 3/2, very fine grained, layering present separated by color, mottled, discrete white stringers, moist to very moist Very moist to wet	ML		Blow counts: 15, 15, 25
32		20	15"/18"	SANDY SILT (sand 10%, fines 90%), 2.5 YR 3/2, very fine grained, masive, large oxidized zones contain more fine sand, plastic, wet	ML		Blow counts: 17, 27, 29
33							
34		21	12"/18"		ML		Blow counts: 17, 21, 29
35		22	12"/18"	SAND, Well Graded (gravel 5%, sand 75%, fines 20%), salt and pepper color, well sorted sand (very fine grained to coarse grained), loose, saturated	SW/SM		Blow counts: 25, 32, 38
36				CLAY (fines 100%), very fine grained, cemented, very hard, mottled, dry	CL		Blow counts: 35, 42, 50 End of boring

09-14-2004 P:\491 41003-Merced\reports\Q3 - Sept 04\MW-6.BOR

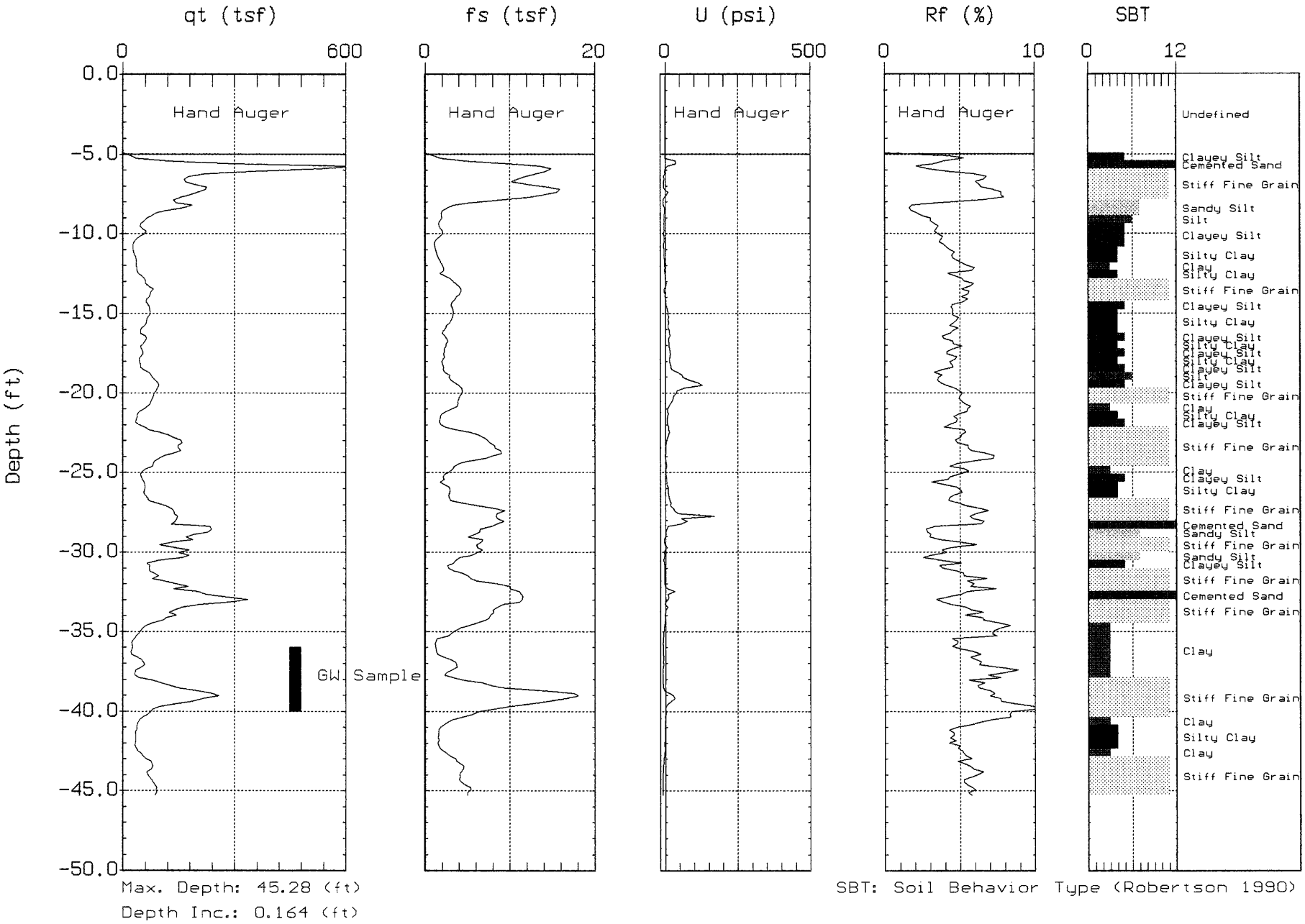
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GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-3

Geologist: J.GAARDER
Date: 10/11/06 13:40



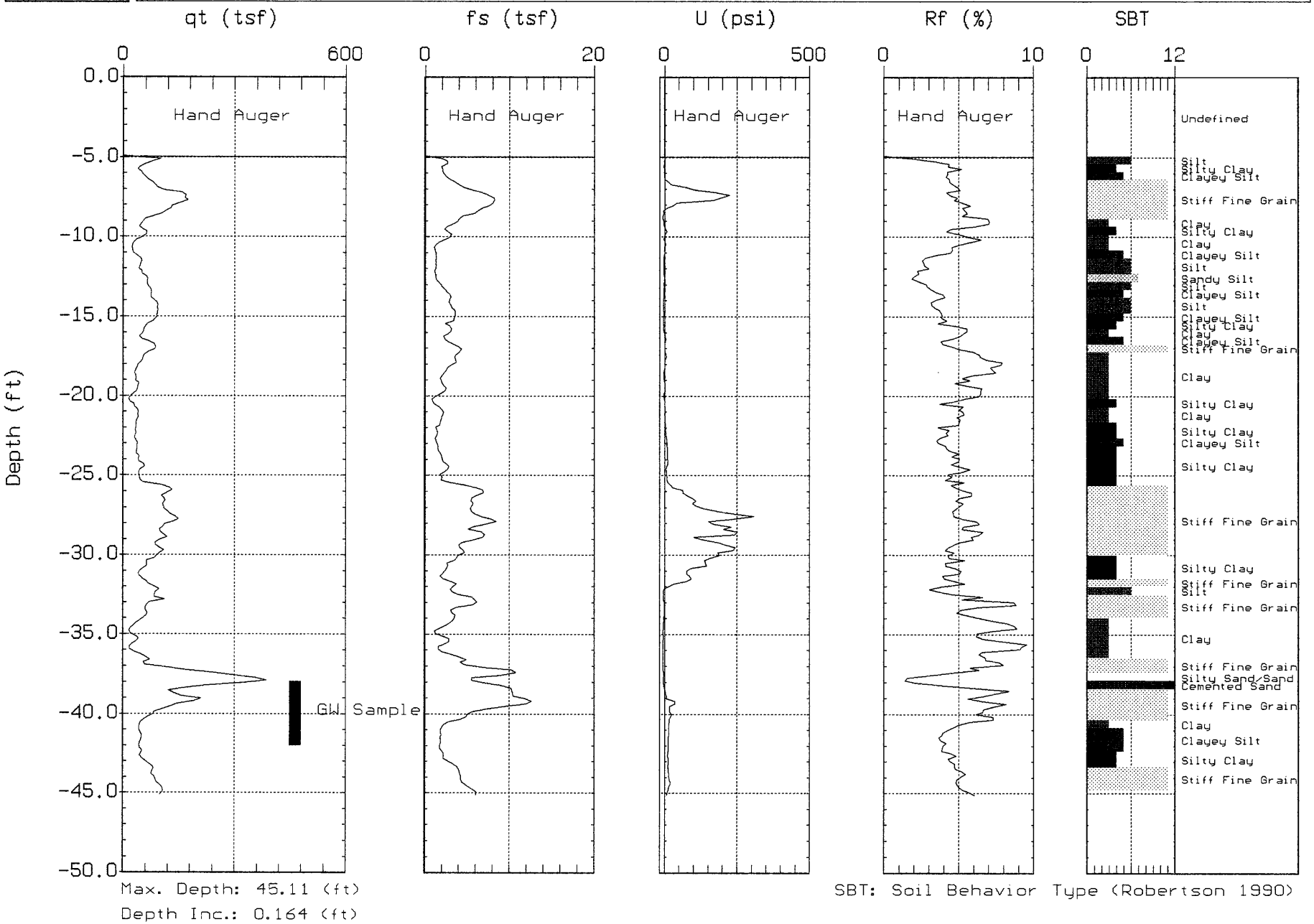
GEOTRACKER ID#:T0604700127

GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-4

Geologist: J.GAARDER
Date: 10/10/06 11:35



Max. Depth: 45.11 (ft)
Depth Inc.: 0.164 (ft)

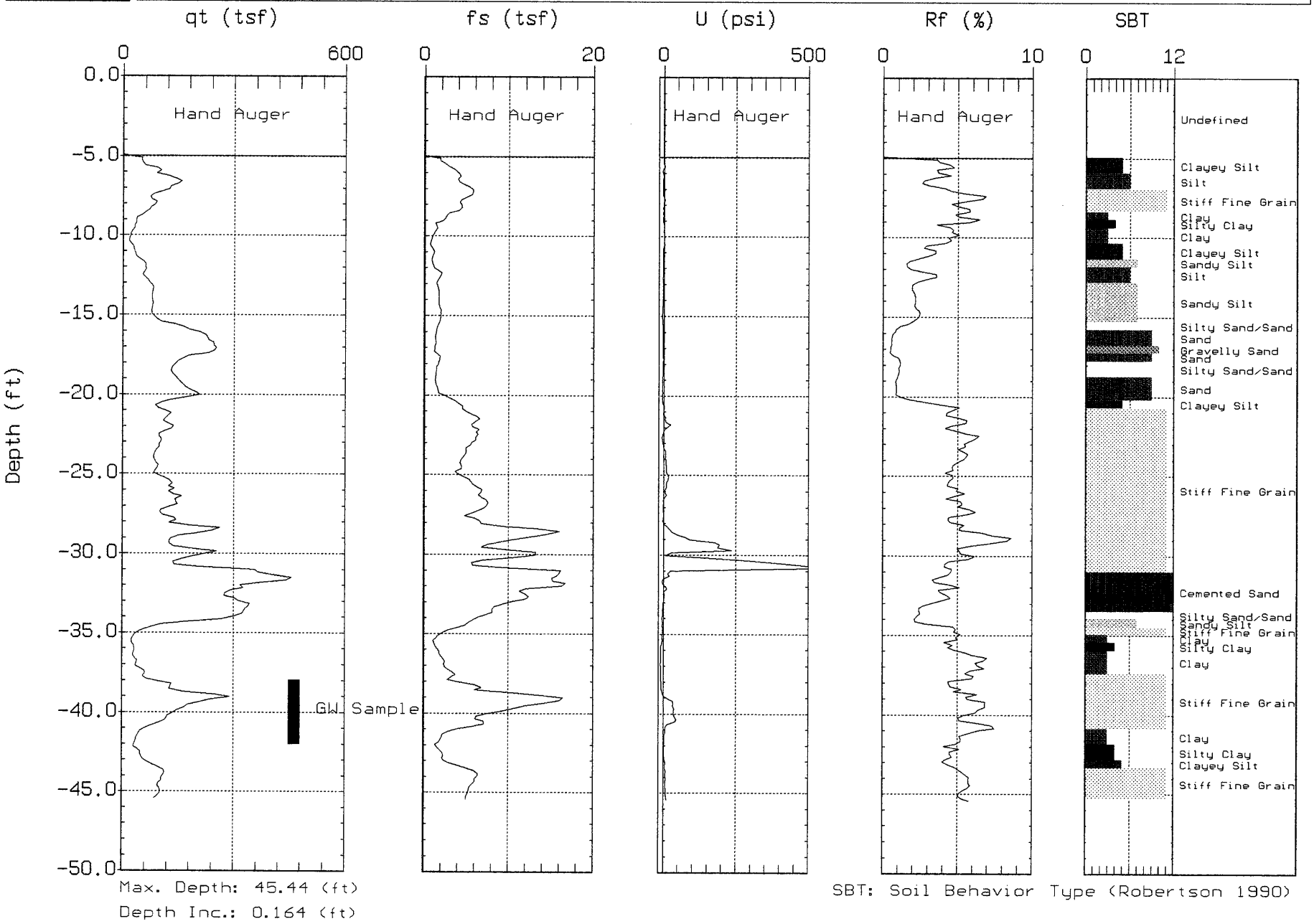
SBT: Soil Behavior Type (Robertson 1990)

GEOTRACKER ID#:T0604700127

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-5

Geologist: J.GAARDER
Date: 10/10/06 10:26



Max. Depth: 45.44 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

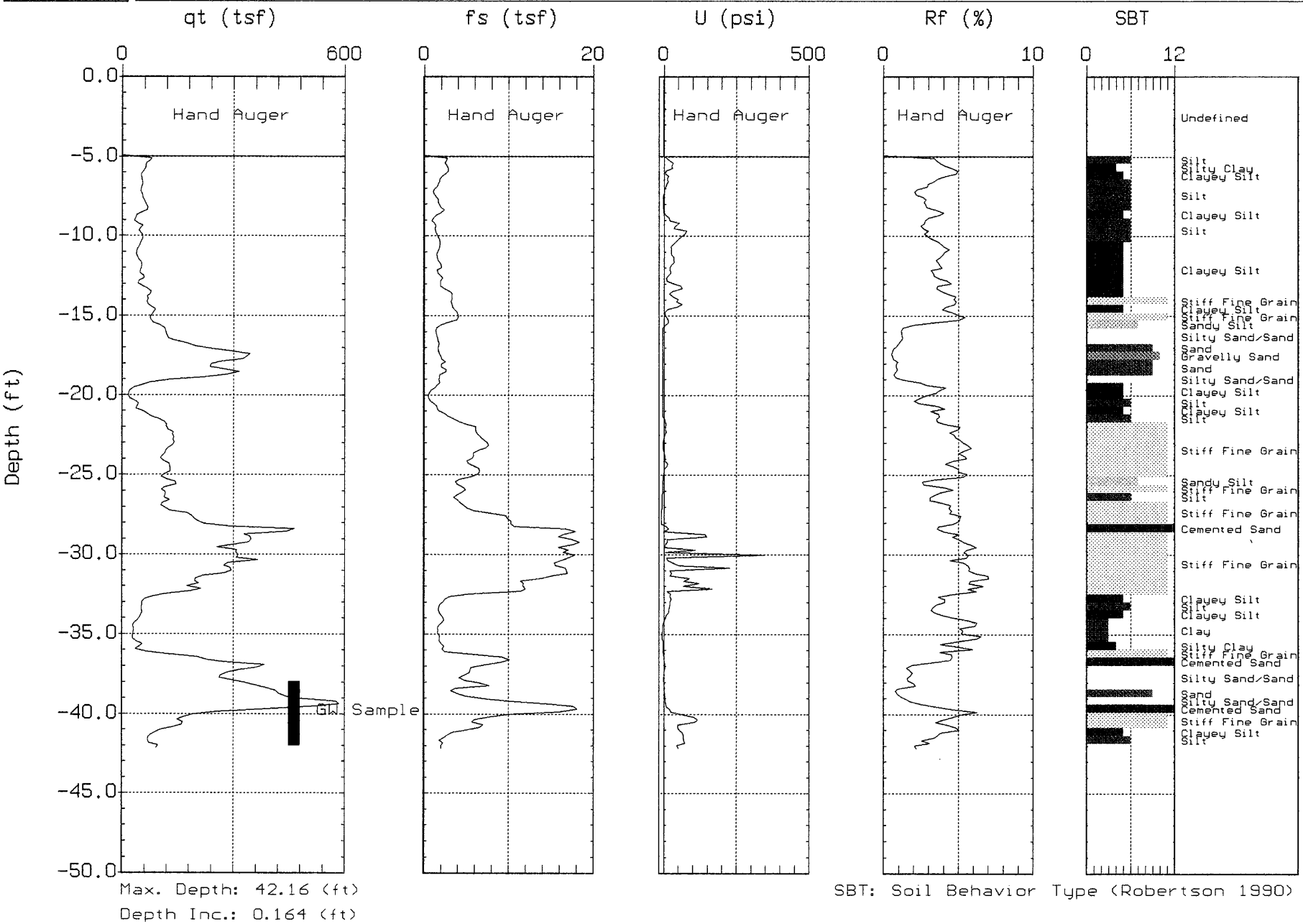
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GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-6

Geologist: J.GAARDER
Date: 10/10/06 08:41



Max. Depth: 42.16 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

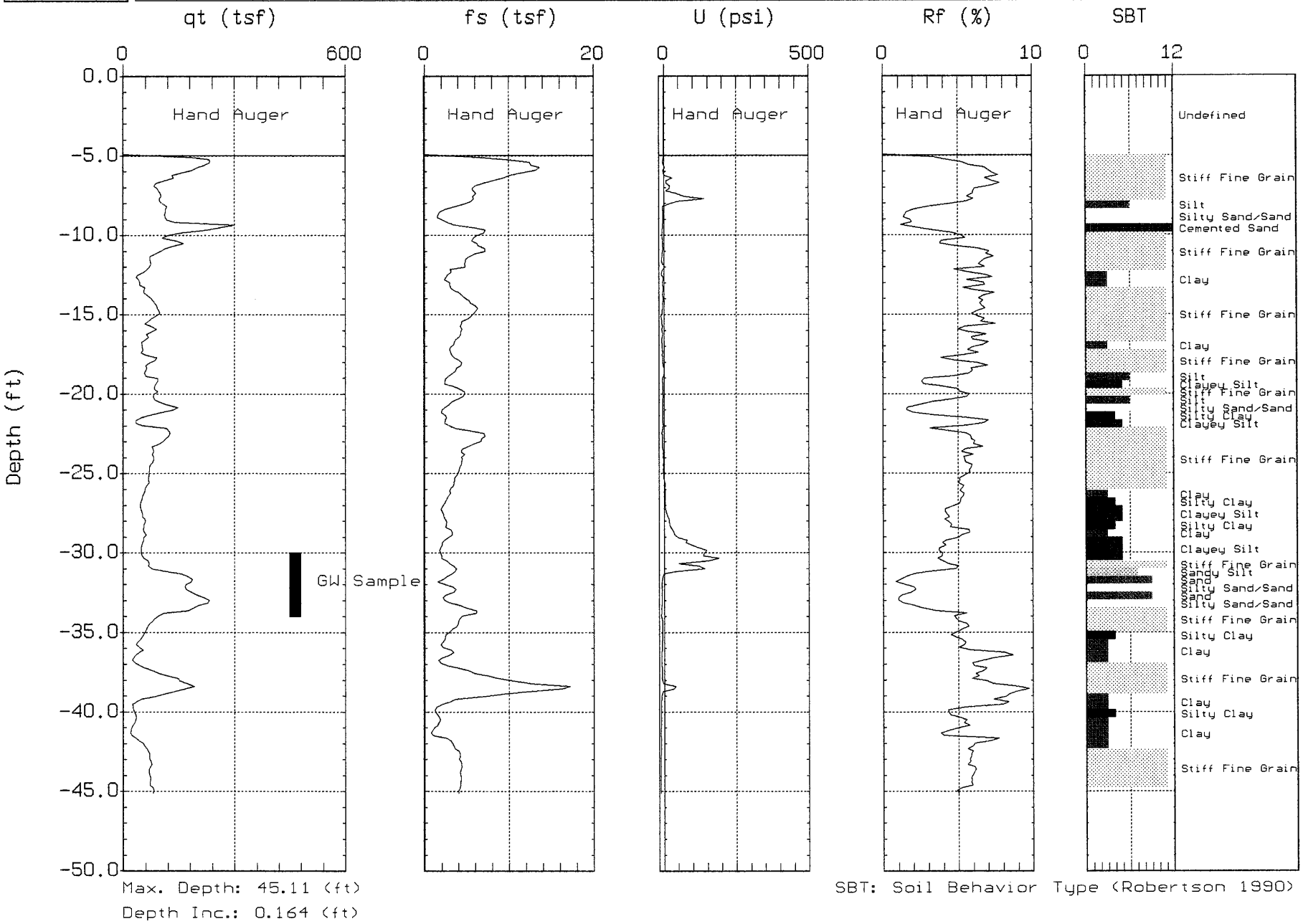
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GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-7

Geologist: J.GAARDER
Date: 10/11/06 10:19



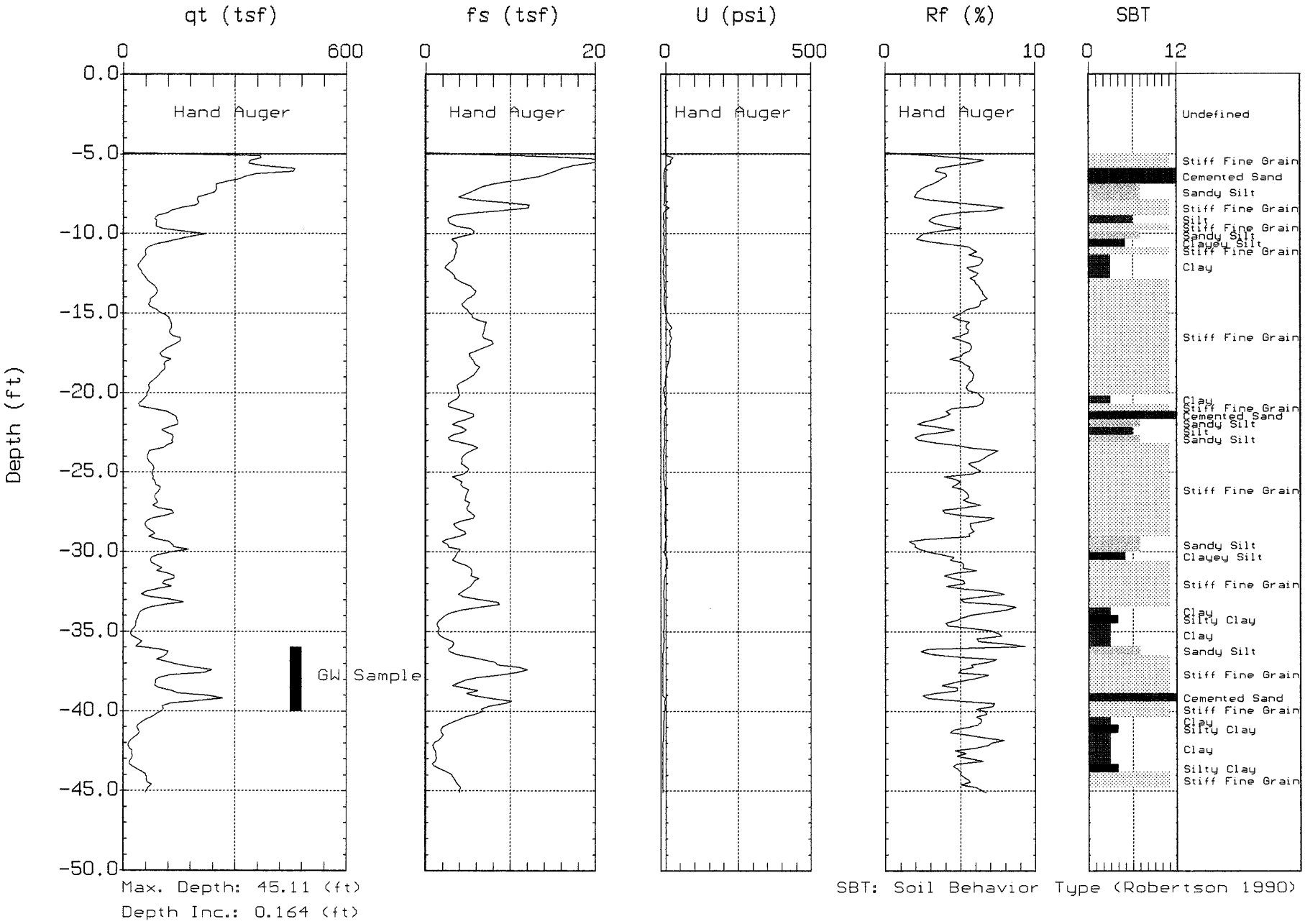
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GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-8

Geologist: J.GAARDER
Date: 10/11/06 11:38



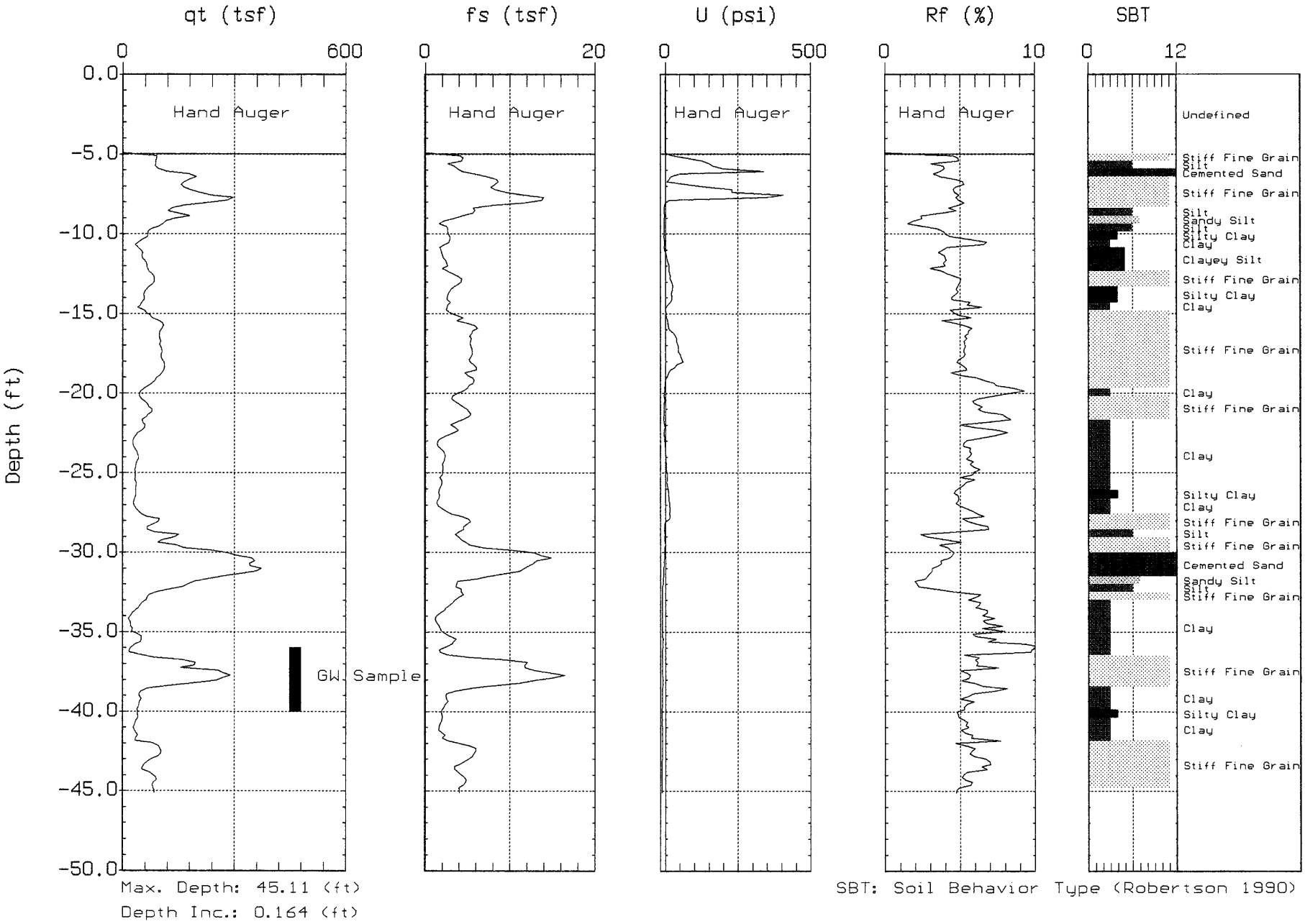
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GREGG

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-9

Geologist: J.GAARDER
Date: 10/10/06 15:10



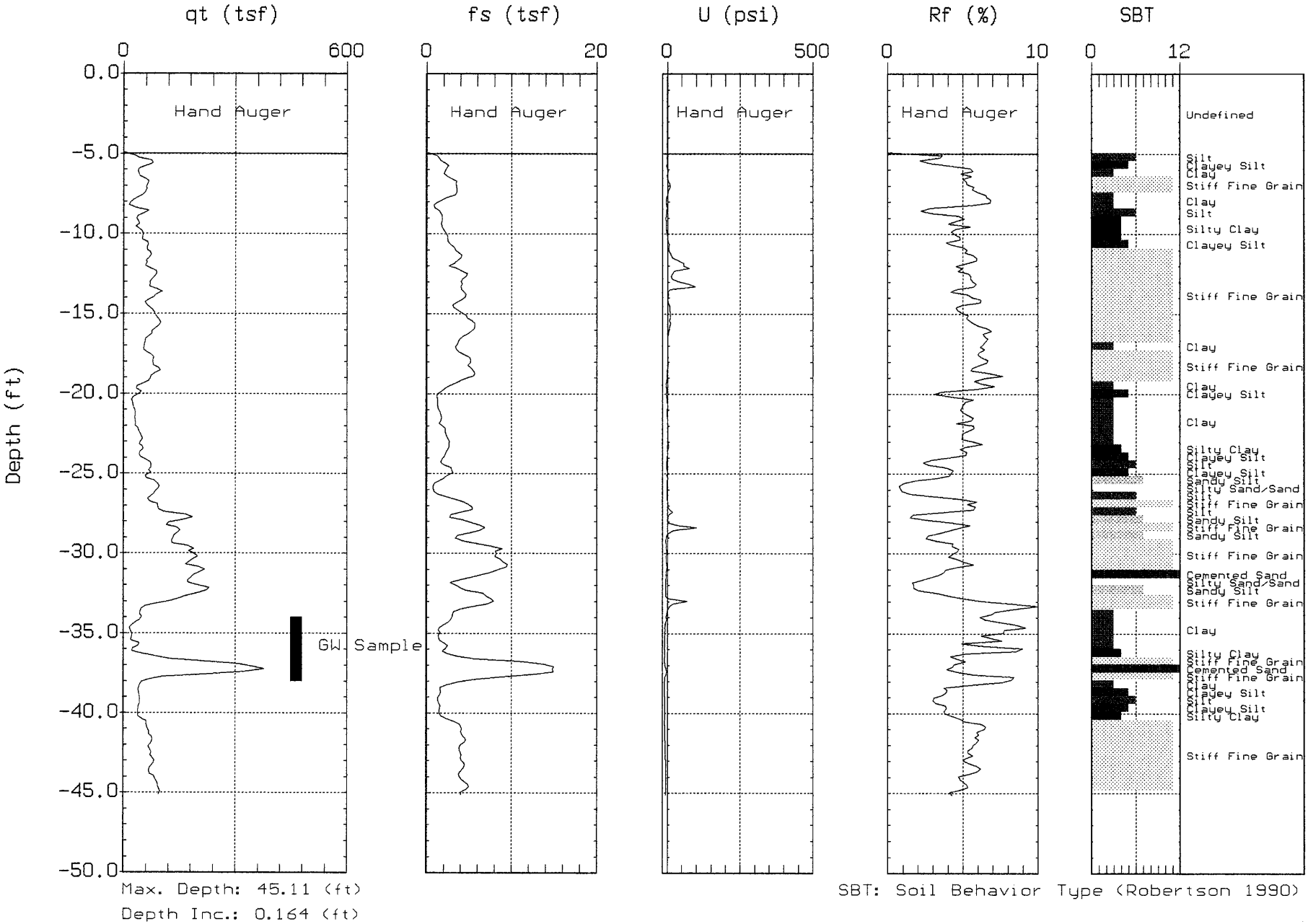
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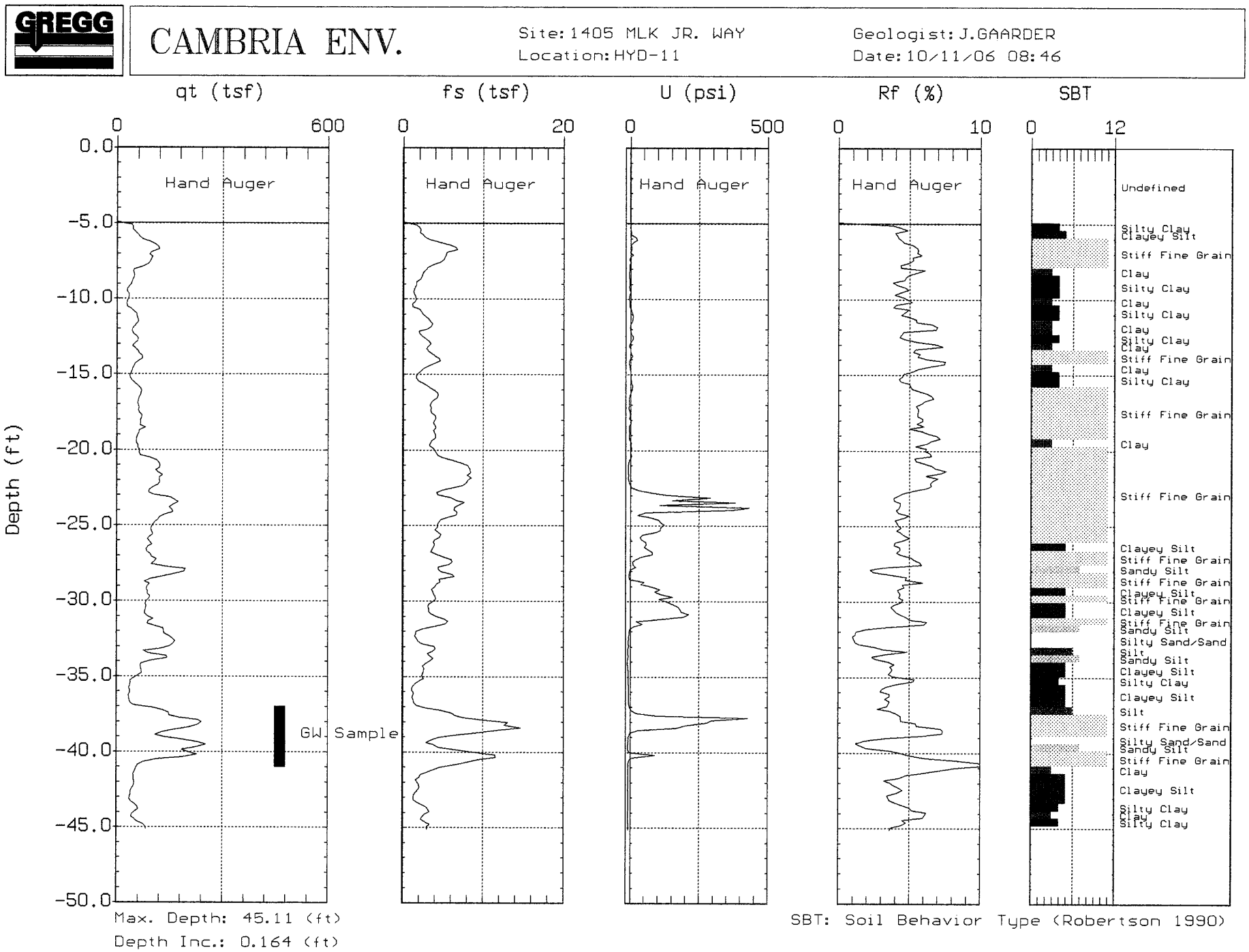
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Site: 1405 MLK JR. WAY
Location: HYD-10

Geologist: J.GAARDER
Date: 10/10/06 14:04



GEOTRACKER ID#:T0604700127

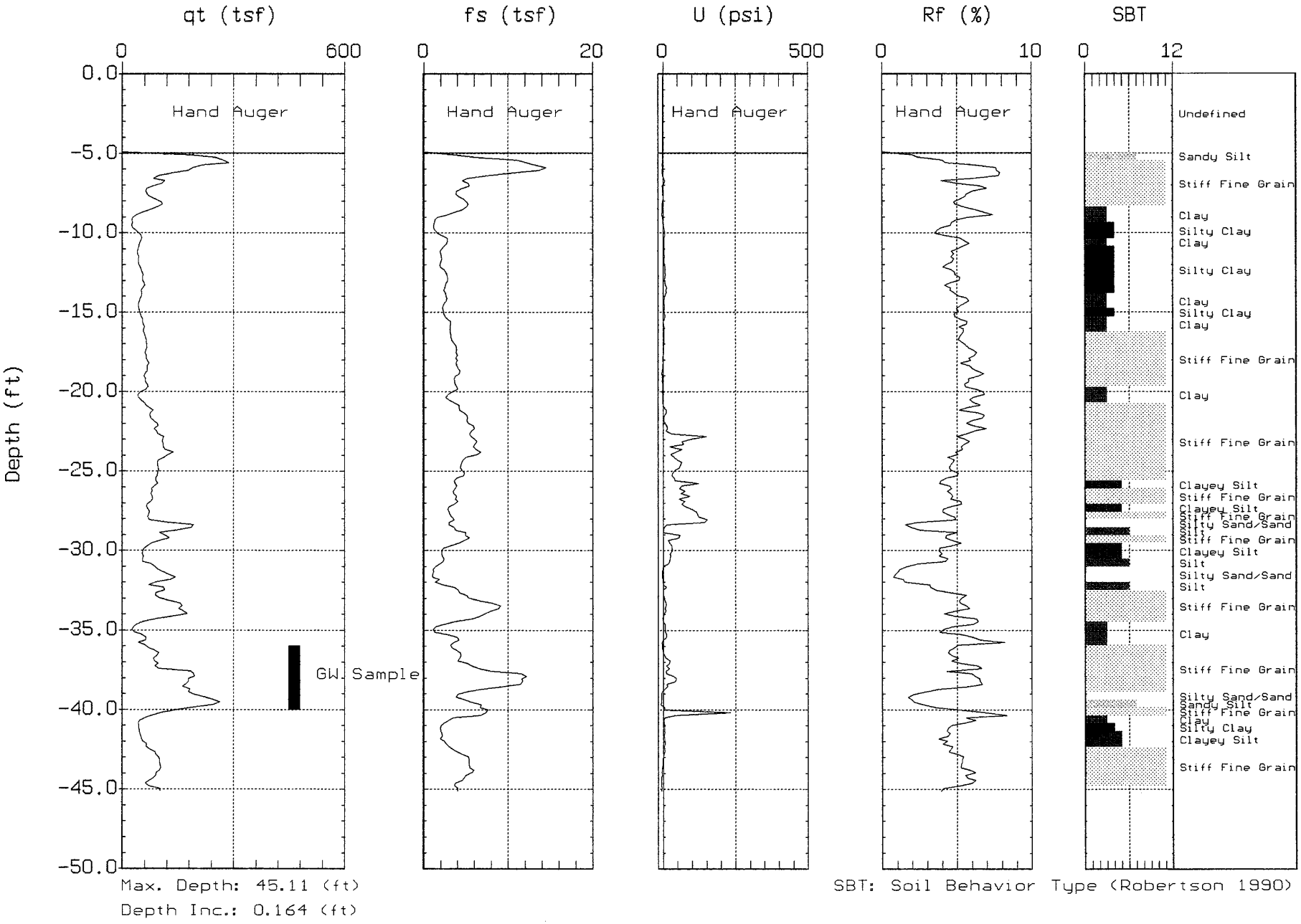


GEOTRACKER ID#:T0604700127

CAMBRIA ENV.

Site: 1405 MLK JR. WAY
Location: HYD-12

Geologist: J.GAARDER
Date: 10/11/06 14:40

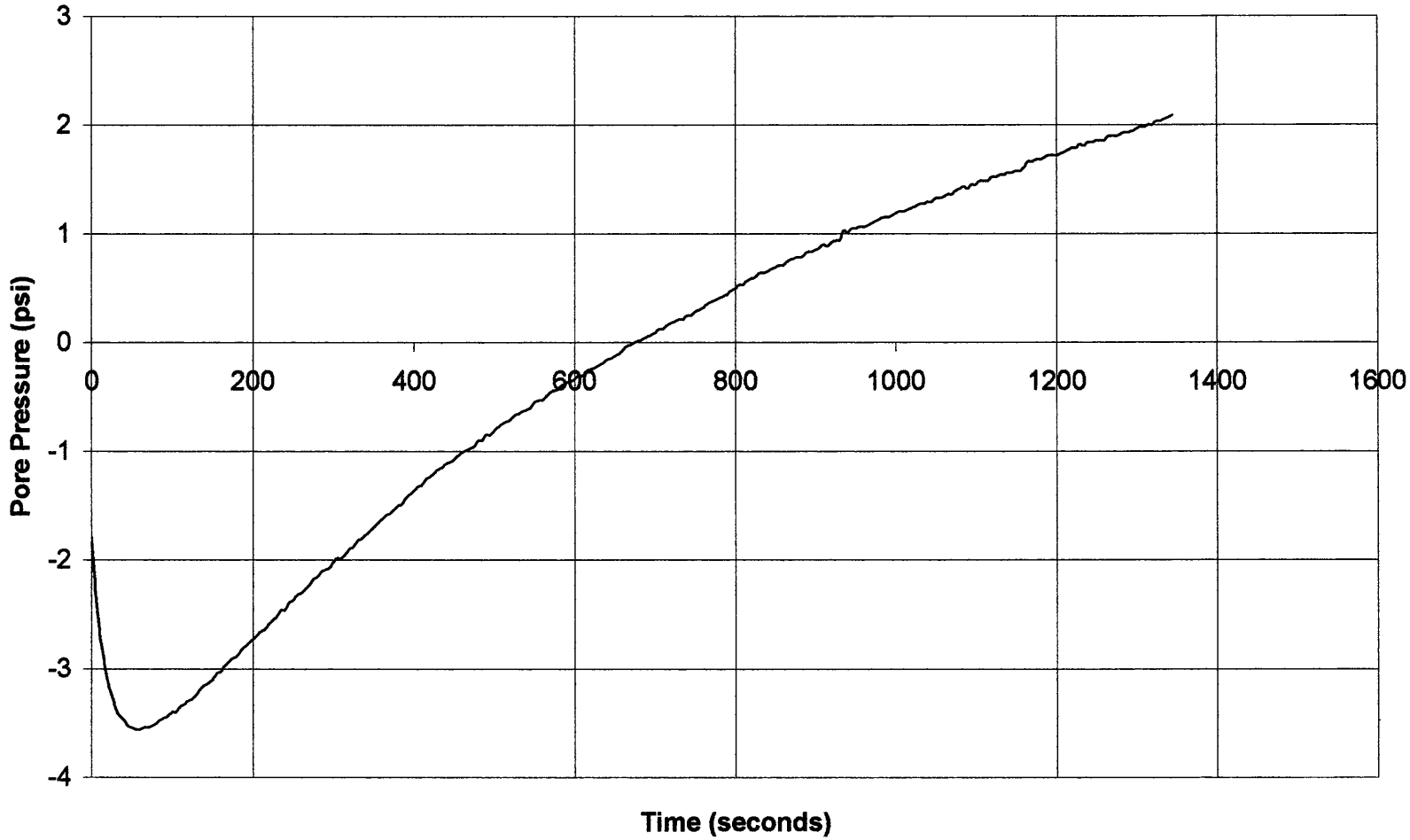


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-5
Depth: 32.316
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

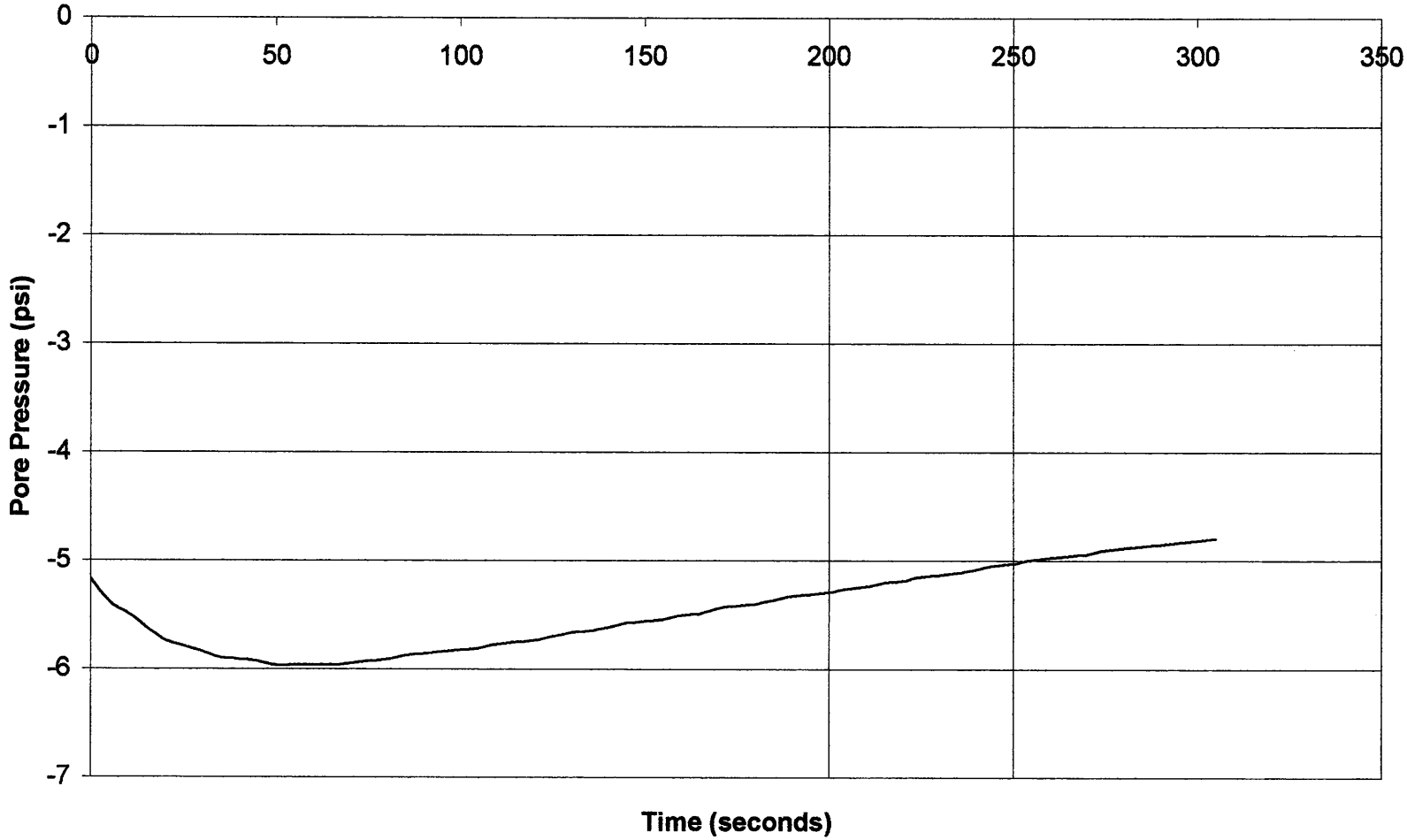


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-6
Depth: 18.865
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

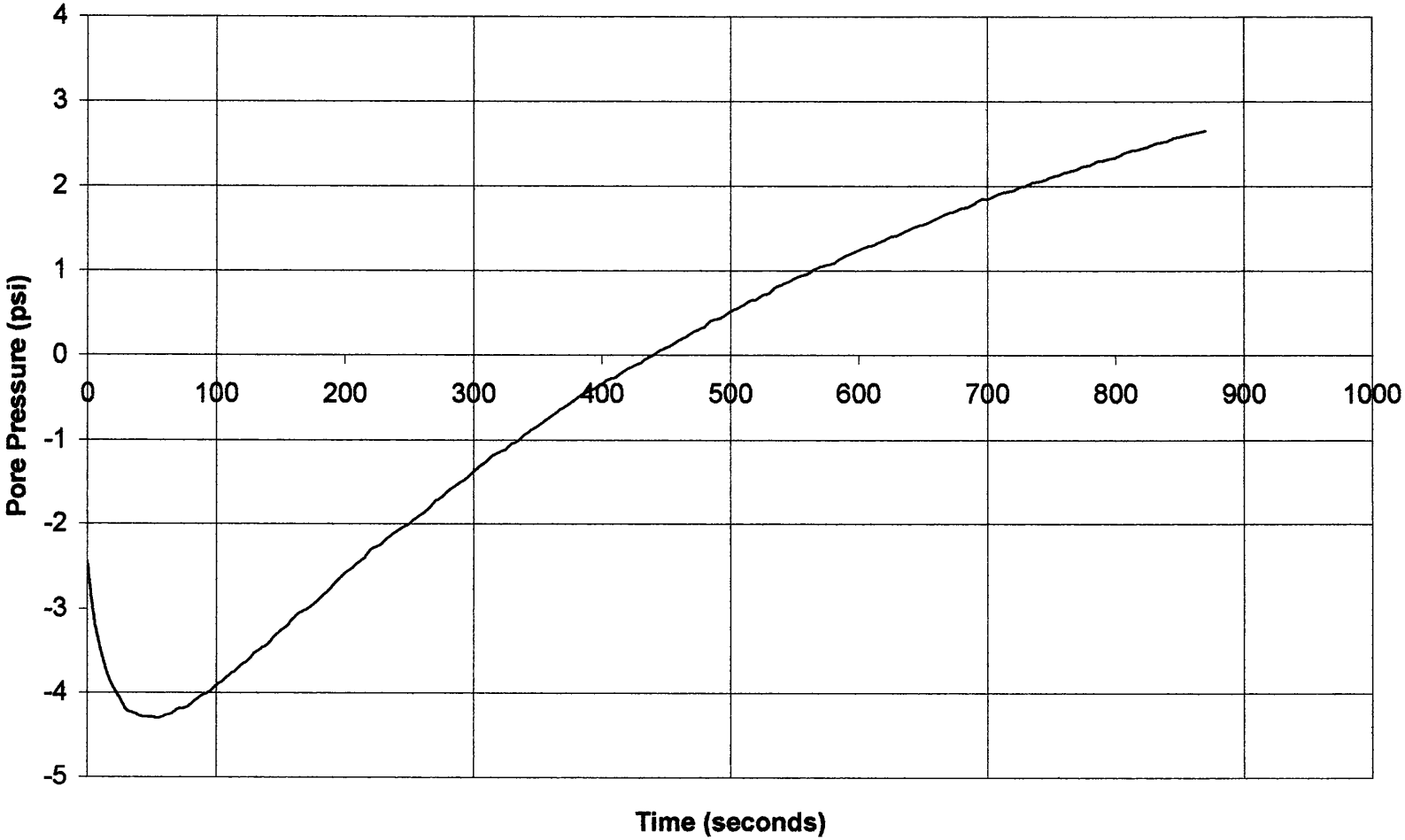


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-6
Depth: 38.553
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

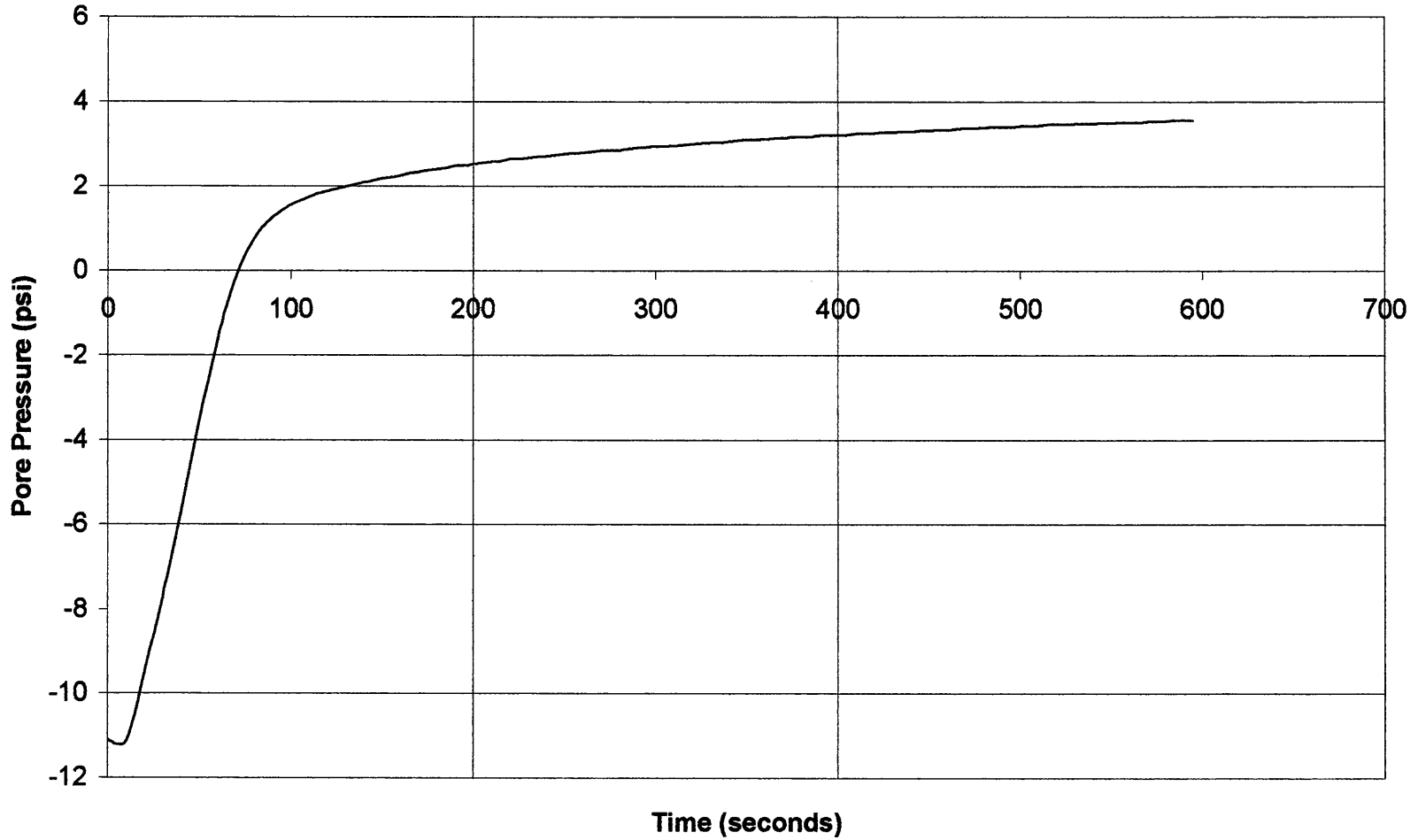


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-8
Depth: 39.042
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

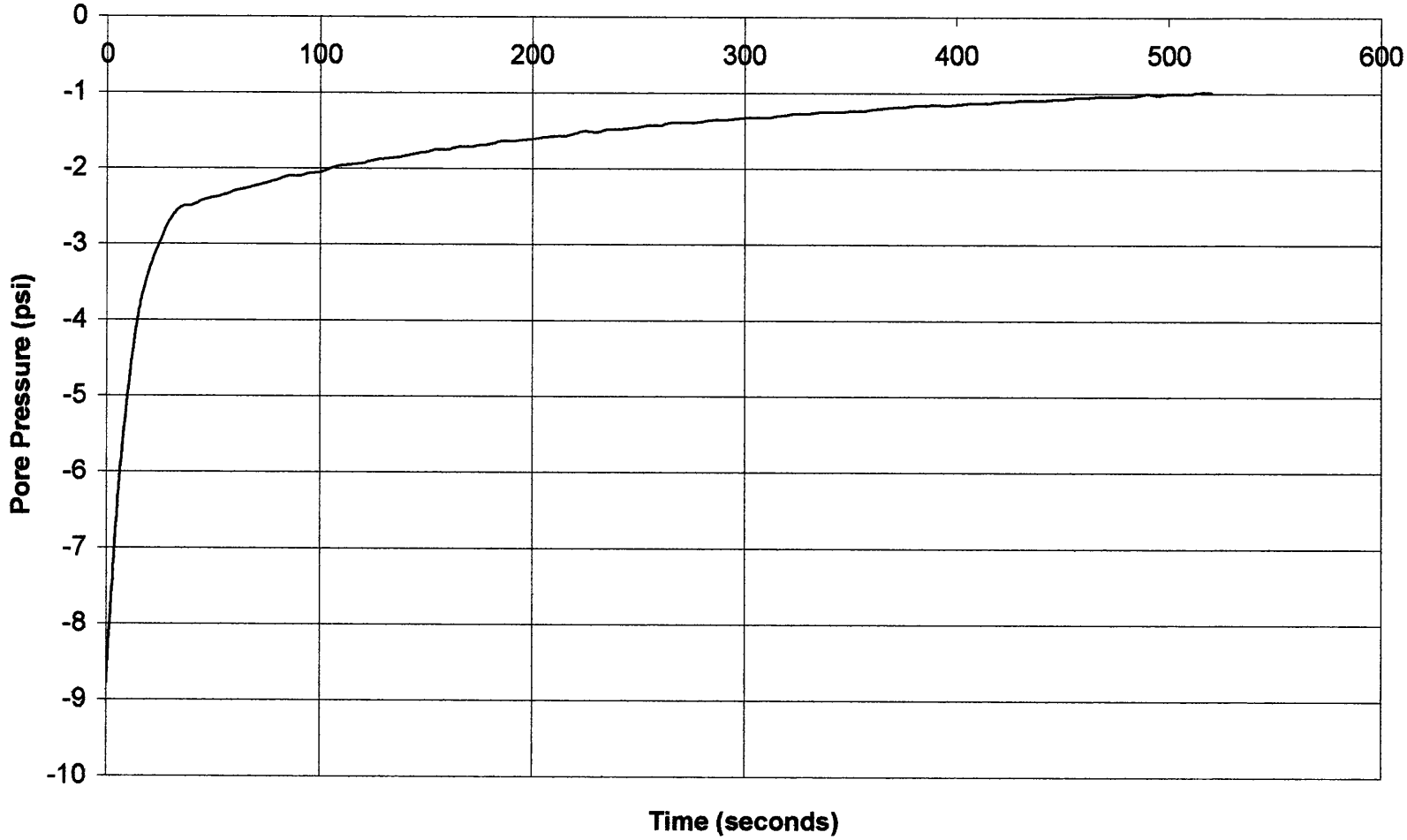


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-11
Depth: 32.808
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

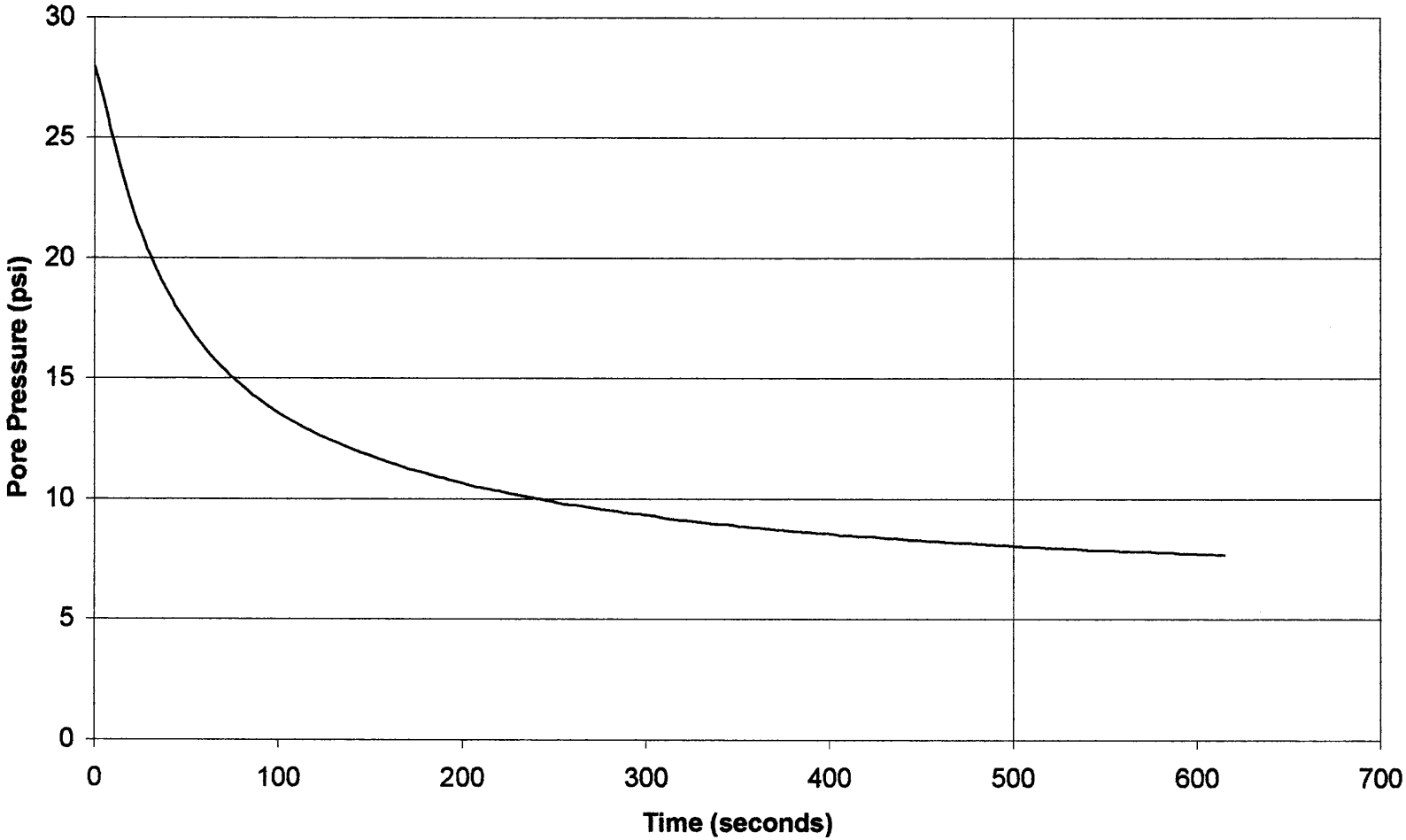


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-11
Depth: 38.55
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER

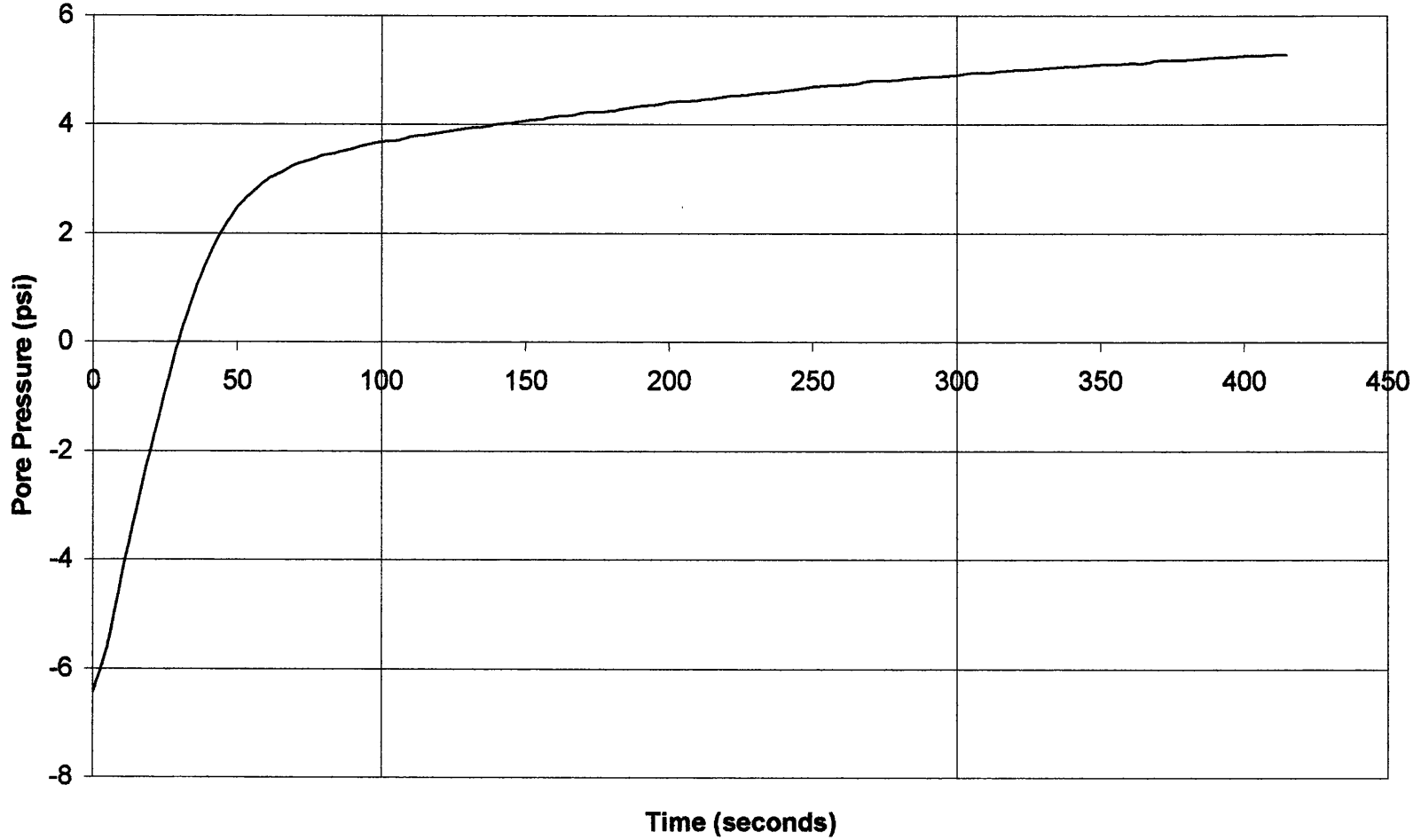


GEOTRACKER ID#:T0604700127

GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: HYD-12
Depth: 39.698
Site: 1405 MLK JR. WAY
Engineer: J.GAARDER



GEOTRACKER ID#:T0604700127

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	V-1
JOB/SITE NAME	Shell-branded (Independent) Service Station	**DRILLING STARTED**	03-Jan-08
LOCATION	1405 J Street (MLK Jr. Way), Merced, CA	**DRILLING COMPLETED**	03-Jan-08
PROJECT NUMBER	240227	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Test America	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	4"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Neely	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.0		V-1-5 .5		5	SM		**Silty SAND with Gravel (SM);** brown (10YR 4/3); moist; 30% silt, 40% sand, 30% gravel.	3.5	1/4" diam., Teflon Tubing; Bentonite Slurry with Pellet Base
0.2		V-1-9 .5		10	ML		**SILT (ML);** brown (10YR 4/3); moist; 20% clay, 75% silt, 5% sand; low plasticity. **SILT (ML);** yellowish brown (10YR 5/4); moist; 5% clay, 90% silt, 5% sand; low plasticity. **SILT (ML);** yellowish brown (10YR 5/4); moist; 5% clay, 90% silt, 5% sand; low plasticity.	10.0	#2/12 Sand; 3" length Stainless Steel Screen; Bentonite Slurry with Pellet Base; #2/12 Sand; 3" length Stainless Steel Screen; Bottom of Boring @ 10 fbg

WELL LOG (PID) U:\BORING LOGS\MERCED03.GPJ DEFAULT.GDT 4/22/08

GEOTRACKER ID#:T0604700127

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	V-3
JOB/SITE NAME	Shell-branded (Independent) Service Station	**DRILLING STARTED**	04-Jan-08
LOCATION	1405 J Street (MLK Jr. Way), Merced, CA	**DRILLING COMPLETED**	04-Jan-08
PROJECT NUMBER	240227	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Test America	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	4"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Neely	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.6	
							SILT with Sand (ML); very dark brown (10YR 2/3); moist; 5% clay, 70% silt, 15% sand, 10% gravel; low plasticity.		1/4" diam., Teflon Tubing; Bentonite Slurry with Pellet Base
							SILT with Sand (ML); very dark grayish brown (10YR 3/2); moist; 10% clay, 75% silt, 15% sand, 5% gravel; low plasticity.		
				5					
0.0		V-3-5 .5			ML				#2/12 Sand; 3" length Stainless Steel Screen; Bentonite Slurry with Pellet Base
							SILT (ML); dark grayish brown (10YR 4/2); moist; 15% clay, 75% silt, 5% sand, 5% gravel; low to medium plasticity.		
0.2		V-3-9 .5		10				10.0	#2/12 Sand; 3" length Stainless Steel Screen; Bottom of Boring @ 10 fbg

WELL LOG (PID) U:\BORING LOGS\MERCED03.GPJ DEFAULT.GDT 4/22/08

GEOTRACKER ID#:T0604700127

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, CA 94608
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	V-4
JOB/SITE NAME	Shell-branded (Independent) Service Station	**DRILLING STARTED**	04-Jan-08
LOCATION	1405 J Street (MLK Jr. Way), Merced, CA	**DRILLING COMPLETED**	04-Jan-08
PROJECT NUMBER	240227	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Test America	**GROUND SURFACE ELEVATION**	Not Surveyed
DRILLING METHOD	Hollow-stem auger		
BORING DIAMETER	4"	**SCREENED INTERVALS**	NA
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	J. Neely	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.5	1/4" diam., Teflon Tubing; Bentonite Slurry with Pellet Base
							SILT with Sand (ML); dark brown (10YR 3/3); moist; 5% clay, 70% silt, 15% sand, 10% gravel.		
							SILT (ML); dark brown (10YR 3/3); moist; 15% clay, 75% silt, 5% sand, 5% gravel; low plasticity.		
0.0		V-4-5 .5		5	ML				#2/12 Sand; 3" length Stainless Steel Screen; Bentonite Slurry with Pellet Base
0.0		V-4-9 .5		10			**SILT (ML);** dark brown (10YR 3/3); moist; 15% clay, 75% silt, 5% sand, 5% gravel; low plasticity.	10.0	#2/12 Sand; 3" length Stainless Steel Screen; Bottom of Boring @ 10 fbg

WELL LOG (PID) U:\BORING LOGS\MERCED03.GPJ DEFAULT.GDT 4/22/08

GEOTRACKER ID#:T0604700127

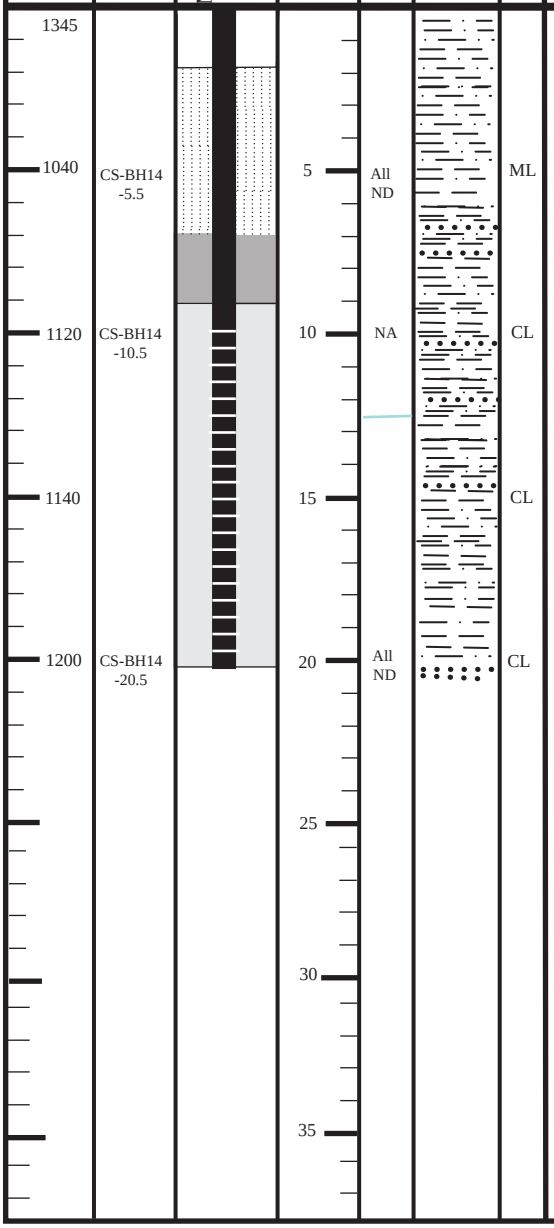
Boring No. CS-BH14 (MW4)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/18/2006 — Finish Date/Time 03/18/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	03/18/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 13.0' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, slight petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582227.46 Northing (feet) 1919248.55
Elevation of Wellhead: 184.31 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

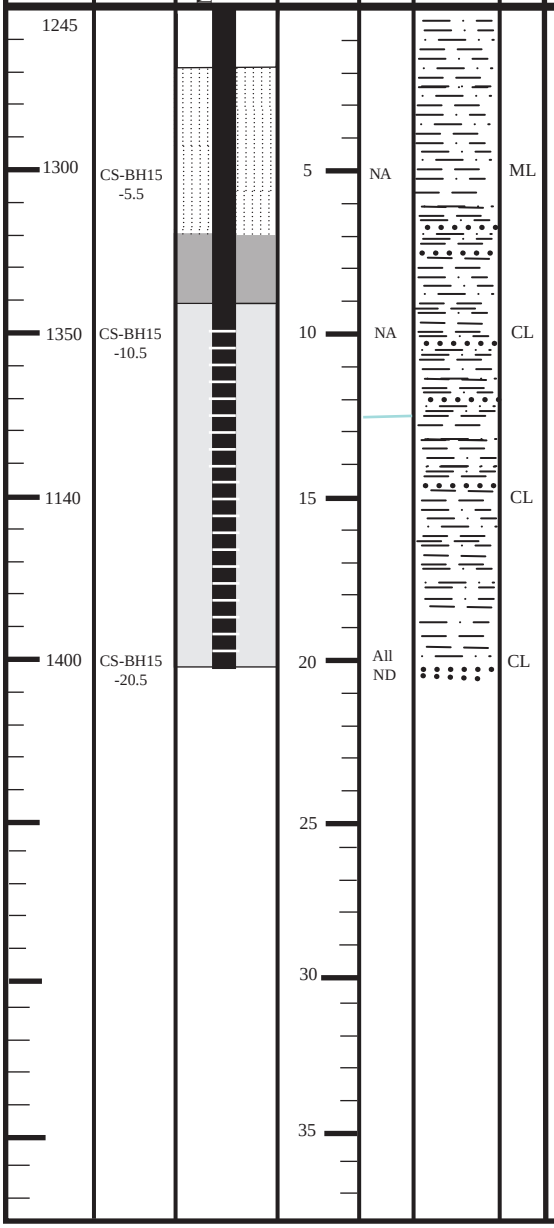
Boring No. CS-BH15 (MW5)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/18/2006 — Finish Date/Time 03/18/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	03/18/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 13.0' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582225.24 Northing (feet) 1919314.03
Elevation of Wellhead: 184.02 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

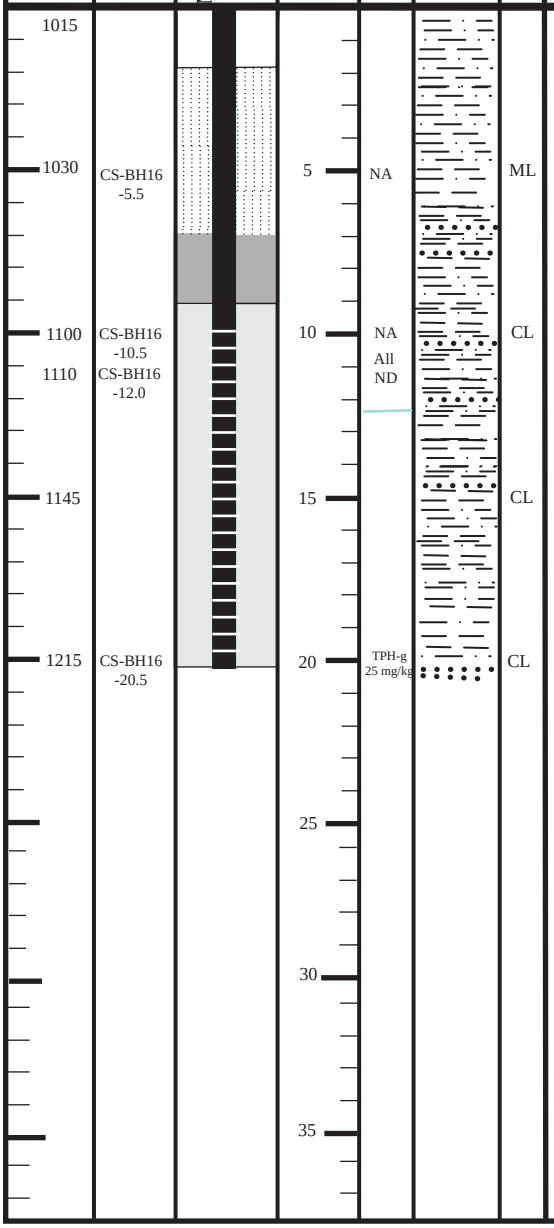
Boring No. CS-BH16 (MW6)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/19/2006 — Finish Date/Time 03/19/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	12.5' bgs		
Date - Time	03/19/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 12.5' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582136.16 Northing (feet) 1919339.04
Elevation of Wellhead: 183.49 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

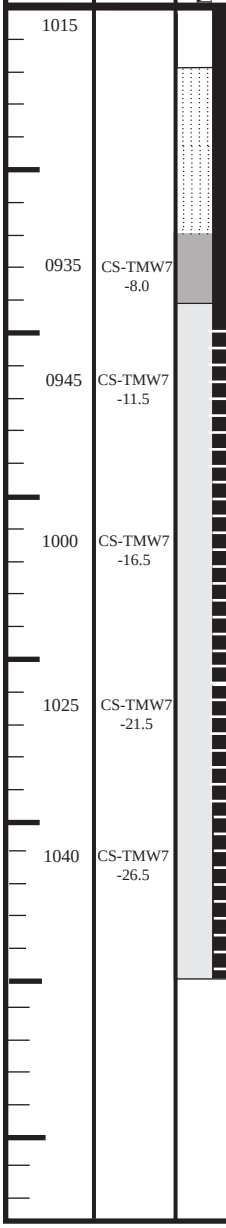
Boring No. CS-MW7

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	12.5' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	30.5' bgs		



Soil Description

SM — CLAYEY SAND: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

CL — SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 12.5' bgs.

CL — SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

CL — SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).

CL — SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582040.33 Northing (feet) 1919268.57
Elevation of Wellhead: 179.67 feet msl (NAVD88).

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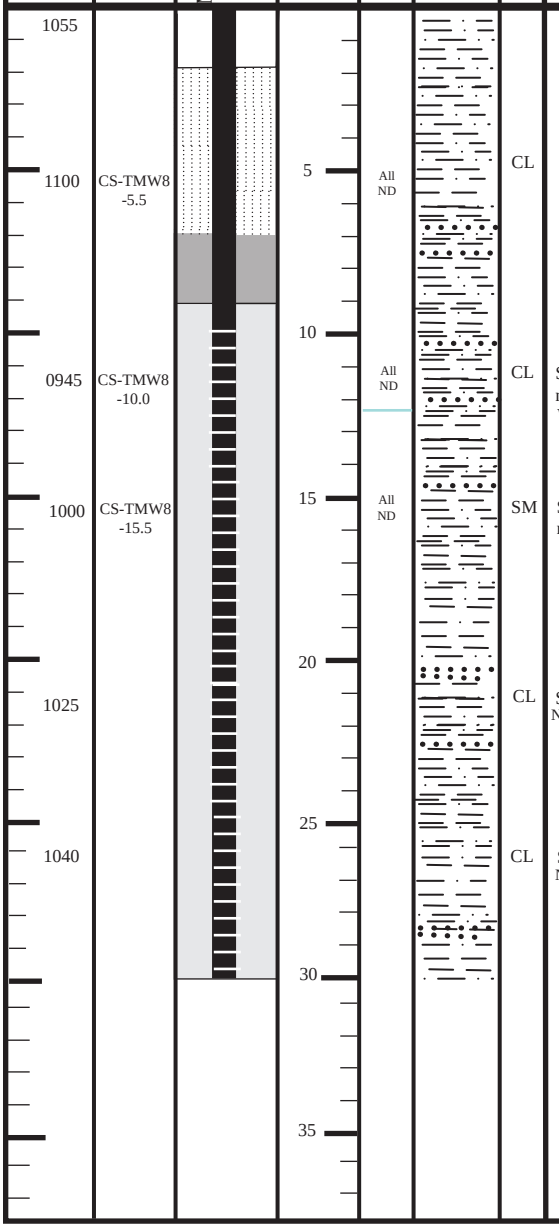
GEOTRACKER ID#:T0604784170

Boring No. CS-MW8

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	13.0' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	30.0' bgs		



Soil Group Symbol (USCS)	Soil Description
CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Water Table at 12.5' bgs.
SM	SILTY SAND: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID). No sample recovery
CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID). No sample recovery

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582147.38 Northing (feet) 1919160.66
Elevation of Wellhead: 179.20 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

Boring No. CS-MW9

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	20.0' bgs		

Time	Sampled Depth Interval and Number	Monitoring Well Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1000							
1005			5	All ND		CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
			10				
1005	CS-TMW9 -10.0			All ND		CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Water Table at 12.5' bgs.
1025	CS-TMW9 -15.5		15	All ND		SM	SILTY SAND: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1045	CS-TMW9 -20.5		20	All ND		CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).
			25				
			30				
			35				

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6581984.63 Northing (feet) 1919325.84
Elevation of Wellhead: 179.43 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

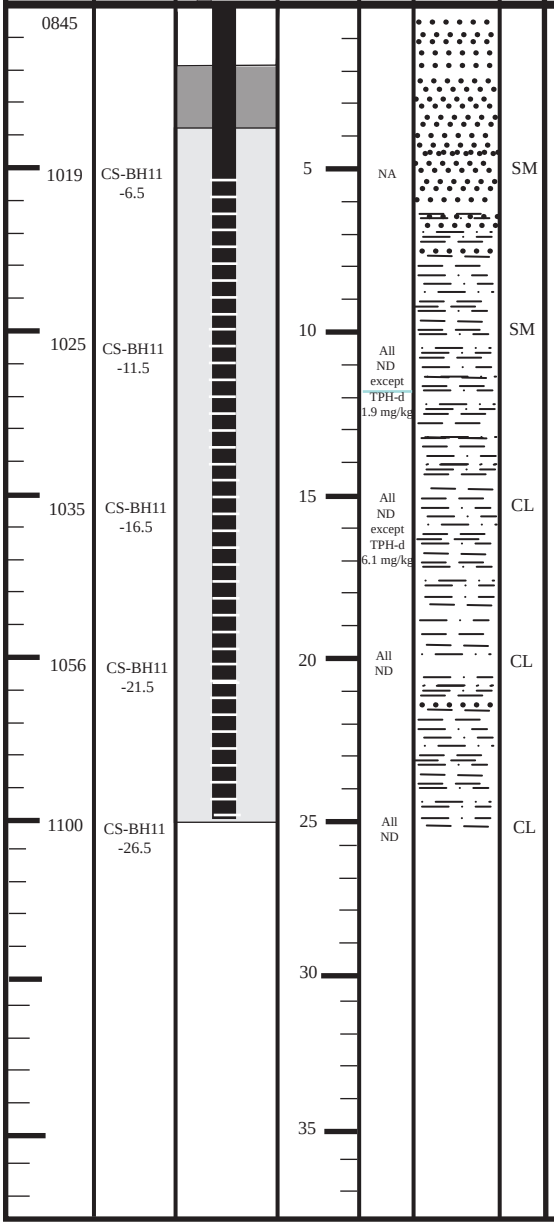
Boring No. CS-BH11/MW11

MONITORING WELL REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	09/04/2008 — Finish Date/Time 09/04/2008
Drilled By	Earthtec Ltd.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	10.5' bgs		
Date - Time	09/04/2008		
Depth of Hole (ft)	25.0' bgs		



Soil Description

SILTY SAND: Brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY SAND: Brown color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 10.5' bgs.

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 5 feet below ground surface; bentonite chip seal from 2 to 4 feet below ground surface; screen set from 5 to 25 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 4 to 25 feet bgs; locking cap on top of case. Neat cement seal from 4 to 2 feet bgs. Cement setting for surface Traffic box.

Boring No. CS-BH12/MW12

MONITORING WELL REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	09/04/2008 — Finish Date/Time 09/04/2008
Drilled By	Earthtec Ltd.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	10.5' bgs		
Date - Time	09/04/2008		
Depth of Hole (ft)	25.0' bgs		



Soil Description

SILTY SAND: Brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY SAND: Brown color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 10.5' bgs.

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 5 feet below ground surface; bentonite chip seal from 2 to 4 feet below ground surface; screen set from 5 to 25 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 4 to 25 feet bgs; locking cap on top of case. Neat cement seal from 4 to 2 feet bgs. Cement setting for surface Traffic box.

GEOTRACKER ID#:T0604784170

HerSchy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

BOREHOLE NO.: **DP-3.6**

TOTAL DEPTH: **40'**

PROJECT INFORMATION

PROJECT:	**Bartlett, Merced**
SITE LOCATION:	**Merced**
JOB NO.:	**A61-02**
LOGGED BY:	**S. Lodge**
PROJECT MANAGER:	**S. Lodge**
DATES DRILLED:	**8/8/2005**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Core**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	MOISTURE	OVA (PPM)	BORING COMPLETION	WELL DETAILS
0			CONCRETE: approximatly 8" thick				Backfilled With Grout
			FILL: approximatly 1' thick				
		ML	SILT: sparse clay, dark brown				
-5			SILTY SAND: fine- to very fine-grained, friable, brown				
		SM					
-10		SM			1.1		
-15		SM					
-20		SP	SAND: medium-grained, partially cemented, brown with slight rust staining		1.4		
		SM	SAND AND SILT: sparse fine-grained sand, greyish brown	Slightly Moist			
-25		SM		Slightly Moist	1.1		
-30		SM		Moist	1.1		
		SM	from 34'-38' layer of grey with petrolum odor	Saturated	16.1		
-35					17.2		
-40			SILT: tan with light grey motteling				

NOTES: Groundwater sample collected

GEOTRACKER ID#:T0604728432

HerSchy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

BOREHOLE NO.: **DP-3.4**

TOTAL DEPTH: **28'**

PROJECT INFORMATION

PROJECT:	**Bartlett, Merced**
SITE LOCATION:	**Merced**
JOB NO.:	**A61-02**
LOGGED BY:	**S. Lodge**
PROJECT MANAGER:	**S. Lodge**
DATES DRILLED:	**8/8/2005**

DRILLING INFORMATION

DRILLING CO.:	**Gregg Drilling**
SLOT SIZE:	**NA**
CASING TYPE:	**NA**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**Continuous Core**
GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	MOISTURE	OVA (PPM)	BORING COMPLETION	WELL DETAILS
0			CONCRETE: approximatly 6" thick				Backfilled With Grout
			FILL: approximatly 1' thick				
			SILT: very sparse clay, dark brown, saturated due to nearby leaky hose				
-5		ML	SANDY SILT: sparse fine-grained sand, friable, brown with light grey motteling				
		SM			0.0		
-10			SILTY SAND: fine-grained, very sparse silt, friable, brown with areas of light grey motteling				
		SM			0.8		
-15			No sample was able to be recovered from 12'-16' due to water in the hole from a nearby leaky hose				
-20		SM		Slightly Moist			
-25		SM		Moist	1.4		
				Saturated			

NOTES: Groundwater Sample Collected

GEOTRACKER ID#:T0604728432

HerSchy Environmental, Inc.
Environmental Consulting and Remediation
P. O. Box 229
Bass Lake, CA 93604-0229
(559) 641-7320

FIELD BOREHOLE LOG

BOREHOLE NO.: **DP-3.2**

TOTAL DEPTH: **32'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Bartlett, Merced**	DRILLING CO.:	**Gregg Drilling**
SITE LOCATION:	**Merced**	SLOT SIZE:	**NA**
JOB NO.:	**A61-02**	CASING TYPE:	**NA**
LOGGED BY:	**S. Lodge**	METHOD OF DRILLING:	**Direct Push**
PROJECT MANAGER:	**S. Lodge**	SAMPLING METHOD:	**Continuous Core**
DATES DRILLED:	**8/8/2005**	GRAVEL PACK:	**NA**

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	MOISTURE	OVA (PPM)	BORING COMPLETION	WELL DETAILS
0			CONCRETE: approximatly 6" thick FILL: approximatly 1' thick SILT: very sparse clay, dark brown				Backfilled With Grout
-5		ML	SANDY SILT: silt and very fine-grained sand, light brown with mottled light grey and rust colored veins				
		SM			2.2		
-10		SM					
-15		ML	SILT: very sparse fine-grained sand and clay, firm, brown		2.2		
-20		SM	SILTY SAND: fine-grained sand, very sparse silt, friable, brown with areas of mottled grey				
-25		SM		Slightly Moist	3.1		
-30		SM		Moist Saturated	2.2		

NOTES: Groundwater sample collected

GEOTRACKER ID#:T0604728432

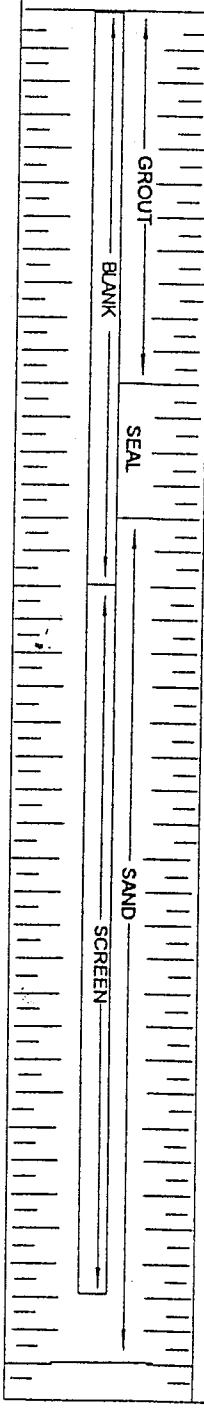
GRISANTI & ASSOCIATES, INC.

WELL / BORING LOG

WELL/ MW-1
BORING B-2
PAGE 1 OF 1

CLIENT Walsh & Maddox
DATE DRILLED 3/3/97
LOCATION Merced, CA
HOLE DIAMETER 6"
HOLE DEPTH 40'
WELL DEPTH ~38'
WELL DIAMETER 2"

LOGGED BY H. Schymiczek
DRILLED BY Grisanti (OS/JK)
DRILLING METHOD HSA
SAMPLING METHOD Split Spoon
CASING TYPE PVC
SLOT SIZE 0.020-inch
GRAVEL PACK #2/16 Monterey



BLOWS/6"	DEPTH (FEET)	SOIL TYPE	LITHOLOGY / REMARKS
	0	SW	SAND: Brown, v. fine- to coarse-grained, trace silt and clay (fill).
	5		
2/3	10	SM	SILTY SAND: Brown, v. fine- to med.-grained, faint gasoline odor, no stain; OVA=0.
10/80	15	ML	SAND SILT: Brown, v. fine- to fine-grained, distinct gasoline odor, no stain; OVA=1,880 ppm.
13/22	20	SM	SILTY SAND: Brown, w/white streaks of calcite cement, v. fine- to coarse-grained, strong gasoline odor, no stain; OVA=2,520 ppm.
42/+50	25		No sample recovery; sampler wet with strong gasoline odor.
	30		
	35		
	40		

GEOTRACKER ID#:T0604728432

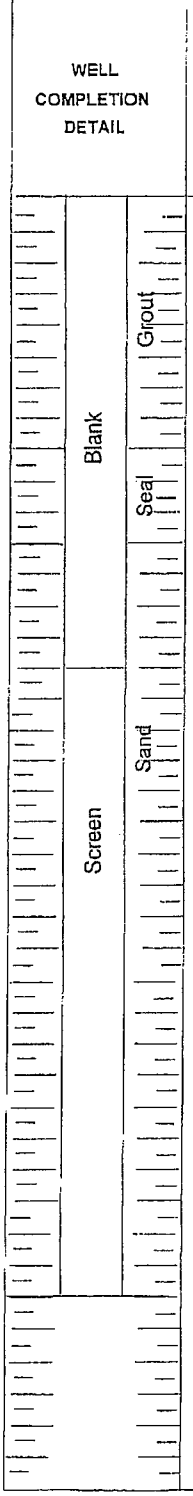
GRISANTI & Associates, Inc.

WELL / BORING LOG

WELL/ MW-1R
BORING
PAGE 1 OF 1

CLIENT County Bank-Walsh & Maddox
DATE DRILLED 8/1/00
LOCATION 13th & G, Merced
HOLE DIAMETER 8"
HOLE DEPTH 35'
WELL DEPTH
WELL DIAMETER 2"
ELEVATION

LOGGED BY H. Schymiczek
DRILLED BY Consolidated Testing
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Split spoon
CASING TYPE PVC Sch 40
SLOT SIZE 0.020"
GRAVEL PACK Monterey #2/16



BLOWS/FOOT	MOISTURE CONTENT	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
		0			SW	Sand, brown, fine to coarse-grained, scattered pebbles to 2.0" (fill)
		5				
		10				
		15				
		20				
		25			ML	Silty sand, grey, v. fine to fine-grained
		30				
		35			ML	Silt, lt. brown
		40				T.D. = 35'

BORINGP1.DW2

GEOTRACKER ID#:T0604728432

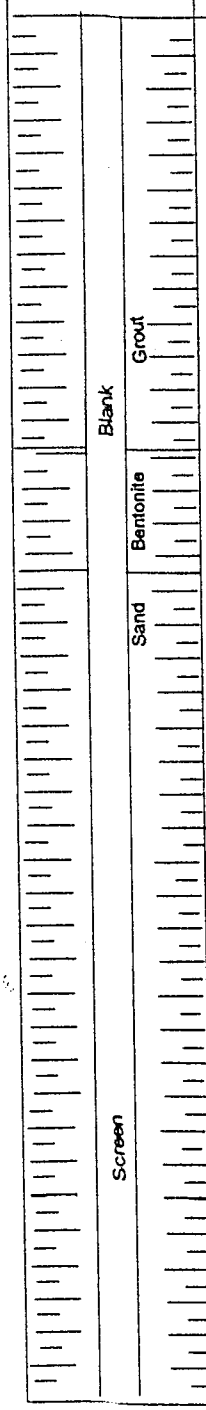
GRISANTI & ASSOCIATES, INC.

WELL / BORING LOG

WELL/ MW-2
BORING NA
PAGE 1 OF 1

CLIENT Walsh & Maddox
DATE DRILLED 8-12-97
LOCATION Merced
HOLE DIAMETER 8"
HOLE DEPTH 40'
WELL DEPTH NA
WELL DIAMETER 2"

LOGGED BY H. Schymiczek
DRILLED BY Grisanti (OS/BV)
DRILLING METHOD HSA
SAMPLING METHOD Split Spoon
CASING TYPE PVC
SLOT SIZE 0.020
GRAVEL PACK Monterey #2/16



MOISTURE CONTENT	(BLOWS / FT.)	DEPTH (FEET)	SOIL TYPE	LITHOLOGY / REMARKS
		0	CL	Clay: Dark grey, silty
		5	ML	Silt: Brown, trace v. fine-grained sand
			ML	Sandy silt: Reddish-brown, v. fine-to fine-grained
dmp	11/17	10	ML	Sandy silt: Brown v. fine-to fine-grained, trace clay, no odor or stain OVA=0
dmp	17/27	15	ML	Silt: Light brown, trace clay, no odor or stain; OVA=0
dmp	6/14	20	ML	Silty sand: v. brown, v. fine-grained, faint gasoline odor, no stain; OVA=1 ppm
	16/36	25	ML	Silty sand: Grey-brown, v. fine-to fine-grained, faint gasoline
		30		Rods wet-sampling discontinued, drilling ahead.
		35		
		40		coarse-grained T. D.=40'

GEOTRACKER Data: T0604728432

GRISANTI & ASSOCIATES, INC.

WELL / BORING LOG

WELL/ MW-3
BORING NA
PAGE 1 OF 1

CLIENT Walsh & Maddox
DATE DRILLED 8-13-97
LOCATION Merced
HOLE DIAMETER 8"
HOLE DEPTH 40'
WELL DEPTH NA
WELL DIAMETER 2"

LOGGED BY H. Schymiczek
DRILLED BY Grisanti (OS/BV)
DRILLING METHOD HSA
SAMPLING METHOD Split Spoon
CASING TYPE PVC
SLOT SIZE 0.020
GRAVEL PACK Monterey #2/16

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOWS / FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
Grout			0			CL	Clay: Dark grey, silty
			5			ML	Silt: Brown, trace clay
Blank	dmp	12/21	10			ML	Sandy silt: Brown, v. fine-to fine-grained, no odor
Bentonite	dmp	12/30	15			ML	Silt: Grey-brown, no odor or stain; OVA=5.6 ppm
Sand	dmp	15/28	20			ML	Silt: Brown, trace v. fine-grained sand; faint gasoline odor, no stain; OVA=31.5 ppm
		18/29	25			ML	Silty sand: Brown, v. fine-to fine-grained, faint gasoline odor, no stain; OVA=21.8 ppm
			30				Rods wet-sampling discontinued, drilling ahead.
Screen			35			CL	Clay: Grey, trace silt
			40				T. D.=40'

GEOTRACKER ID#:T0604728432

GRISANTI & Associates, Inc.

WELL / BORING LOG

WELL/ MW-4
BORING
PAGE 1 OF 1

CLIENT County Bank-Walsh & Maddox
DATE DRILLED 8/1/00
LOCATION 13th & G, Merced
HOLE DIAMETER 8"
HOLE DEPTH 35'
WELL DEPTH
WELL DIAMETER 2"
ELEVATION

LOGGED BY H. Schymiczek
DRILLED BY Consolidated Testing
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Split spoon
CASING TYPE PVC Sch 40
SLOT SIZE 0.020"
GRAVEL PACK Monterey #2/16

WELL COMPLETION DETAIL	BLOWS/FOOT / MOISTURE CONTENT	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
Grout		0				Approx. 2" asphalt
					CL	Silty clay, dk brown
		5			ML	Silt, lt. brown, trace v. fine sand
Blank		10				
Seal						
	8/25/36	15			ML	Silt, brown, trace clay, no odor or stain; OVA = 0
Screen					ML	Silt, grey (upper 9")
	5/8/21	20			SW	Sand, brown, v. fine to coarse grained, trace silt, scattered pebbles to 0.05" (lower 9"), distinct gasoline odor, no stain; OVA = 1268 ppm
Sand		25			SM	Silty sand, brown, v. fine to med-grained, distinct gasoline odor
		30				
		35				T.D. = 35'
		40				

BORINGP1.DW2

GEOTRACKER ID#:T0604728432

GRISANTI & Associates, Inc.

WELL / BORING LOG

WELL/ MW-5
BORING
PAGE 1 OF 1

CLIENT County Bank-Walsh & Maddox
DATE DRILLED 8/1/00
LOCATION 13th & G, Merced
HOLE DIAMETER 8"
HOLE DEPTH 35'
WELL DEPTH
WELL DIAMETER 2"
ELEVATION

LOGGED BY H. Schymiczek
DRILLED BY Consolidated Testing
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Split spoon
CASING TYPE PVC Sch 40
SLOT SIZE 0.020"
GRAVEL PACK Monterey #2/16

WELL COMPLETION DETAIL	BLOWS/FOOT / MOISTURE CONTENT	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
Grout		0				Approx. 3" asphalt
					CL	Silty clay, brown
		5				
Blank					ML	Silt, brown, trace clay
Seal		10				
	9/11/17	15			ML	Silt, brownish-grey, no odor or stain: OVA = 0
Screen	7/9/16	20			ML	Silty sand, brown, v. fine to fine grained, no odor or stain: OVA = 0
Sand		25				
		30				
		35			ML	Silt, brown
						T. D. = 35'
		40				

BORINGP1.DW2

GEOTRACKER ID#:T0604728432

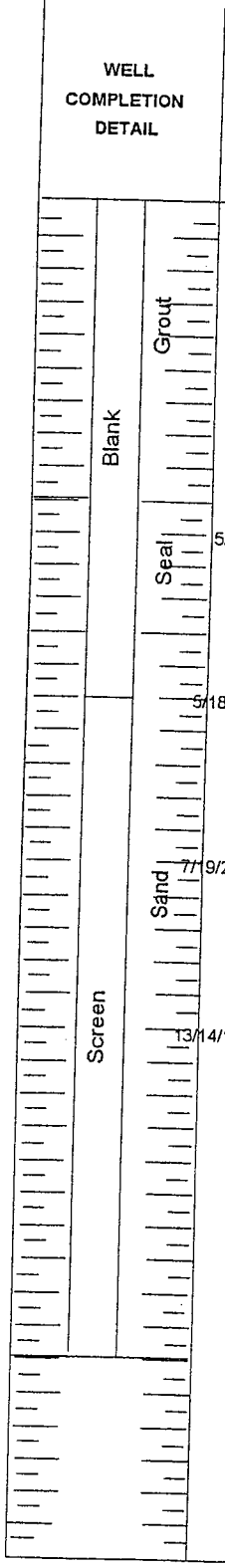
GRISANTI & Associates, Inc.

WELL / BORING LOG

WELL/ MW-6
BORING NA
PAGE 1 OF

CLIENT County Bank Walsh & Maddox
DATE DRILLED 9/11/01
LOCATION 13th & G St., Merced
HOLE DIAMETER 8"
HOLE DEPTH 35'
WELL DEPTH
WELL DIAMETER 2"
ELEVATION

LOGGED BY H. Schymiczek
DRILLED BY Consolidated Testing
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Split Spoon
CASING TYPE PVC Sch 40
SLOT SIZE 0.020"
GRAVEL PACK Monterey #2/16



BLOWS/FOOT	MOISTURE CONTENT	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
		0			ML	Clayey silt, brown
		5			ML	Silt, lt brown, trace v fine sand
5/8/9		10			ML	Clayey silt, brown, no odor or stain; OVA = 0
5/18/21		15			SM	Silty sand, brown, v fine to coarse grained, no odor or stain; OVA = 0
7/19/23		20			SW	Sand, brown, v fine to coarse grained, trace silt, scattered pebbles to 0.25', no odor or stain; OVA =0
13/14/18	wet	25			ML	Silty sand, grey-brown, v fine to fine grained, distinct gasoline odor, no stain; OVA = 433 ppm
		30			ML	Silty sand, grey, v fine to fine-grained, trace clay
		35			ML	Silt, grey, trace clay and v fine sand
		40				

GEOTRACKER ID#:T0604728432

BORINGP1.DW2

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-1

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 32.41 Stabilized	45.0		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
Asphalt Patch Portland cement	5 10 15 20		Hand Auger to 5'	Asphalt **Silt with Sand (SM)**, light olive brown (2.5YR5/4), 75 - 85% non plastic fines, 15 - 25% fine grained sand, trace strong brown (2.5YR5/6) iron-oxide staining, moderate amount of white coloration, possibly calcium carbonate, dry, no odor. **Clayey Sand (SC)**, olive gray (5Y4/2), 30 - 40% medium plasticity fines, 60 - 70% fine grained sand, abundant yellowish brown (10YR5/8) iron-oxide staining, damp, no odor. **Well Graded Sand with Silt (SW-SM)**, olive gray (5Y4/2), 10% fines, 50 - 60% fine grained sand, 30 - 40% medium grained sand, 10 - 20% coarse grained sand, subangular to subrounded, trace gravel to 0.25" in diameter, subangular, damp, no odor. **Poorly Graded Sand with Silt (SP-SM)**, yellowish brown (10YR5/4), 10% fines, 70 - 80% medium grained sand, subangular to subrounded, 10 - 20% fine grained sand, damp, no odor.	0.0 0.1 0.0 0.1

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 1/31/06
STATE OF CALIFORNIA

Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

Log of Boring

Figure

(sheet 1 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-1

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 32.41 Stabilized	45.0		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
				Silty Sand (SM), olive grey (5Y4/2), 20 - 30% non-plastic fines, 70 - 80% fine grained sand, pockets of white substance, damp, slight hydrocarbon odor.	11.3
	30			**Lean Clay with Sand (CL)**, grey (5Y5/1), 75 - 85% low to medium plasticity fines, 15 -25% fine grained sand, damp, no odor.	1.3
▽ Portland cement	35				0.2
	40			Hydropunch pushed to 45' - No water after 20 minutes. - Hydropunch screen and rods were pulled and water sample collected from open borehole.	
	45				

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Project No. **77CP.60064.00.0003** Date **June 2004**

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 11/31/06
STATE OF CALIFORNIA

Log of Boring

Figure 2 Hemeon
(sheet 2 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-2

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 40 First ▼ 33.61 Stabilized	40.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
Asphalt Patch			Hand Auger to 5'	Asphalt	
	5			Hardpan layer at 4' to 4.5' **Silt with Sand (ML)**, light olive brown (2.5Y5/4), 80 - 90% non plastic fines, 10 - 20% fine grained sand, moderate strong brown (7.5YR5/4) iron-oxide staining, dry, no odor.	0.1
Portland Cement					
	10			**Sandy Lean Clay (CL)**, olive (5Y4/3), 70 - 80% low to medium plasticity fines, 20 - 30% fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining, damp, no odor.	0.3
	15			**Well Graded Sand (SW)**, olive gray (5Y4/2), 30 - 40% fine grained sand, 30 - 40% medium grained sand, 10 - 20% coarse grained sand, subangular to subrounded, 10 - 20% gravel to 0.35" in diameter, damp, no odor.	1.8
	20			**Silty Sand (SP)**, yellowish brown (10YR5/4), 10 - 15% fines, 85 - 90% fine grained sand, damp, strong hydrocarbon odor.	72.6

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Project No. **77CP.60064.00.0003** Date **June 2004**

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
c/p 1/31/06
STATE OF CALIFORNIA

Log of Boring

Figure

(sheet 1 of 2)

GEOTRACKER ID#:T0604700497

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-2

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 40 First ▼ 33.61 Stabilized	40.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
				Silt with Sand (ML), olive gray (5Y4/2) to olive (5Y4/4), 85 - 95% non-plastic fines, 5 - 15% fine grained sand, possible product staining throughout, damp, strong hydrocarbon odor.	210
	30			**Clayey Sand (SC)**, dark gray (5Y4/1), 30 - 40% low to medium plasticity fines, 60 - 70% fine grained sand, trace medium grained sand, damp, moderate hydrocarbon odor.	15.6
▼ Portland Cement	35				
▽	40			**Poorly Graded Sand with Silt (SP-SM)**, yellowish brown (10YR5/4), 10% trace fines, 80% fine grained sand, 10% medium grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining, wet, no odor.	0.2
	45				

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REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 1/31/06
STATE OF CALIFORNIA

Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

Log of Boring

Figure

(sheet 2 of 2)

GEOTRACKER ID#:T0604700197

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-3

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 30.6 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
Asphalt Patch Portland Cement	5 10 15 20		Hand Auger to 5'	Asphalt **Sandy Silt (ML)**, light olive brown (2.5Y5/4), 70 - 80% non plastic fines, 20 - 30% fine grained sand, dry, no odor. **Lean Clay (CL)**, olive brown (2.5Y4/4), medium plasticity fines, trace fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining, damp, no odor. **Well Graded Sand with Gravel (SW)**, olive gray (5Y4/2), 15 - 25% fine grained sand, 35 - 45% medium grained sand, 20 - 30% coarse grained sand, 10 - 20% subangular to angular gravel, damp, moderate hydrocarbon odor. **Sandy Silt (ML)**, yellowish brown (10YR5/6), 50 - 60% non-plastic fines, 40 - 50% fine grained sand, pockets of white substance - possibly clacium carbonate, greenish grey (gley1 5/1) hydrocarbon staining, damp, strong hydrocarbon odor.	2 35 49 17

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Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 1/31/06
STATE OF CALIFORNIA

Log of Boring

Figure

(sheet 1 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/20/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-3

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 30.6 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
				Sandy Silt (ML), olive gray (5Y4/2), 75 - 85% non-plastic fines, 15 - 25% fine grained sand, damp, strong hydrocarbon odor.	10
▼	30			**Silt with Sand (SM)**, olive gray (5Y5/2), 15 - 25% low to medium plasticity fines, 75 - 85% fine grained sand, damp, strong hydrocarbon odor.	0
▽ Portland Cement	35			**Clayey Sand (SC)**, olive gray (5Y5/2), 30 - 40% low to medium plasticity fines, 60 - 70% fine grained sand, trace medium grained sand, moist to wet, no odor.	0
	40			**Poorly Graded Sand (SP)**, light yellowish brown (2.5Y6/4), trace fines, fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining throughout, moist, no odor.	0
	45				0

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Project No. **77CP.60064.00.0003** Date **June 2004**

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 1/31/06
STATE OF CALIFORNIA

Log of Boring

Figure (sheet 2 of 2)

GEOTRACKER ID#:T0609[illegible]

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/21/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-4

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 31.4 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
Asphalt Patch Portland Cement	5 10 15 20		Hand Auger to 5'	Asphalt **Clayey Sand (SC)**, olive gray (5Y4/2), 20 - 30% medium plasticity fines, 70 - 80% fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining, damp, no odor. **Sandy Silt (ML)**, dark yellowish brown (10YR4/6), 70 - 80% non to low plasticity fines, 20 - 30% fine grained sand, abundant strong brown (7.5YR5/8) iron-oxide staining throughout, damp, no odor.	0.2 1.6

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Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 3/06
STATE OF CALIFORNIA

Log of Boring

Figure

(sheet 1 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/21/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-4

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 31.4 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
▼ ▽ Portland Cement	30 35 40 45			**Poorly Graded Sand (SP)**, strong brown (7.5YR5/6), trace fines, fine grained sand, abundant gray (2.5YR5/1) possible product staining, damp, strong odor.	37.8
				Silty Sand (SM), dark gray (5Y4/1), 20 - 30% low plasticity fines, 70 - 80% fine grained sand, trace areas of greenish gray (gley1 5/10y) damp, slight hydrocarbon odor.	10.1
				Silty Sand (SM), olive brown (2.5Y4/4), 5 - 15% fines, 80 - 90% fine grained sand, 5 - 10% medium grained sand, moist, no odor.	0.5
				Poorly Graded Sand (SP), light yellowish brown (2.5Y6/4), trace fines, fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining throughout, wet, no odor.	0.1

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

REGISTERED GEOLOGIST
M. GAVAN HENRICH
No. 7572
exp 11/31/06
STATE OF CALIFORNIA

Log of Boring

Figure 8H

(sheet 2 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/21/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-5

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 32.05 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
Asphalt Patch Portland Cement	5 10 15 20		Hand Auger to 5'	Asphalt **Poorly Graded Sand (SP)**, olive brown (2.5Y4/4), trace fines, fine grained sand, dry, no odor. **Clayey Sand (SC)**, brown (10YR4/3), 30 - 40% low to medium plasticity fines, 60 - 70% fine grained sand, abundant strong brown (7.5YR5/6) iron-oxide staining, damp, no odor. **Silty Sand (SM)**, olive brown (2.5Y4/3), 20 - 30% non to low plasticity fines, 70 - 80% fine grained sand, abundant iron-oxide staining, damp, no odor.	0.1 0.2 0.6

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 11/31/06
STATE OF CALIFORNIA

Project No. 77CP.60064.00.0003 Date June 2004

BORINGS 5-04.GPJ
LOG OF BOREHOLE

Log of Boring

Figure

(sheet 1 of 2)

GEOTRACKER ID#:T0604700187

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Boring Number:
SC	5/21/04	SoilProbe Inc.	76 Station #11164 655 East Main St., Merced	Direct Push Geoprobe 66DT	B-5

See "Legend to Logs" for sampling method, classifications and laboratory testing methods	Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
	1.5		▽ 35 First ▼ 32.05 Stabilized	45.5		

Boring Completion Details	Depth, (ft.)	Sample Recovery	Blows/6"	Description	PID Readings (PPM)
▼ ▽ Portland Cement	30 35 40 45			**Poorly Graded Sand with Silt (SP-SM)**, dark yellowish brown (10YR4/6) to dark gray (10YR4/1), 10% fines, fine grained sand, damp, slight hydrocarbon odor.	5.3
				Clayey Sand (SC), dark gray (5Y4/1), 20 - 30% medium plasticity fines, 70 - 80% fine grained sand, trace medium grained sand, possible product staining throughout, slight hydrocarbon odor.	1.8
				Poorly Graded Sand (SP), light yellowish brown (2.5Y4/4), 80 - 90% fine grained sand, 10 - 20% medium grained sand, strong brown (7.5YR5/6) iron-oxide staining throughout, wet, no odor.	0.1

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

REGISTERED GEOLOGIST
M. GAVAN HEINRICH
No. 7572
exp 11/31/06
STATE OF CALIFORNIA

Project No. **77CP.60064.00.0003** Date **June 2004**

BORINGS 5-04.GPJ
LOG OF BOREHOLE

Log of Boring

Figure 2

(sheet 2 of 2)

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 1
Project No. E90-268

DATE DRILLED: 8-16-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: G

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5					CL	CLAY (CL); reddish-brown, dry, drills easy. Becomes slightly moist below 5 feet.
10	NO	8.0	7 10		ML	Medium dense SILT (ML); brown, slightly moist, drills easy.
15	MOD	28.0	37 42		SW	Very dense fine to coarse SAND (SW); with gravel, gray, slightly moist, drills firm.
20	MOD	360	20 25		ML	Dense SILT (ML); reddish-brown, slightly moist, drills firm.
25	MOD	40.0	19 23		ML	Dense very fine sandy SILT (ML); micaceous, greenish-brown, slightly moist, drills firm.
						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 1

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 2
Project No. E90-268

DATE DRILLED: 8-16-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	CLAY (CL); reddish-brown, dry, drills easy.
5						Medium dense SILT (ML); brown, slightly moist, drills easy.
10	NO	0.0	17 20		ML	
15	SLGT	30.0	17 17			Mottled below 15 feet.
						Dense SILT (ML), red, slightly moist, drills firm.
20	STR	2110	22 34		ML	
						Becomes reddish-brown, below 23 feet.
25	MOD	1054	XX XX			
						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 1

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 3
Project No. E90-268

DATE DRILLED: 8-20-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5					ML	Medium dense SILT (ML); reddish-brown, slightly moist, drills easy.
10	NO	0.0	7 11			
15	NO	5.7	21 28		SW	Dense medium to coarse SAND (SW); with minor gravel, slightly moist, drills firm.
20	STR	402	14 20		ML	Clayey SILT (ML); red, slightly damp, drills firm. Grades to greenish-brown below 21 feet.
25	STR	1836	21 27			BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 1

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 4
Project No. E90-268

DATE DRILLED: 8-20-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Count	Graphic Log	Soil Classification	SOIL DESCRIPTION
5					ML	Clayey SILT (ML); reddish-brown dry, drills firm.
10	NO	0.0	10 13		ML	Medium dense SILT (ML); green, slightly damp, drills easy.
15	NO	14.8	12 20		SP	Medium dense, medium SAND (SP); with minor gravel, gray, slightly moist, drills easy.
20	SLGT	122	24 27		ML	Hard SILT (ML); reddish-brown, slightly moist, drills firm.
25	SLGT	256	19 23		SW	Dense fine to medium SAND (SW); with silt, slightly damp, drills firm.
						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 1

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 5
Project No. E90-268

DATE DRILLED: 8-20-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5	NO	0.0	21 24		ML	Dense SILT (ML); reddish-brown, dry, drills firm.
10	NO	0.0	9 12			
15	NO	0.0	10 14			Becomes greenish-brown at 15 feet.
20	MOD	501	14 9		SP	Medium dense, medium to coarse SAND with gravel (SP); with poorly sorted, subangular grains, slightly moist, drills easy.
					ML	Medium dense SILT (ML); greenish-brown, slightly moist, drills easy.
25	SLGT	152	15 21			BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 1

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 6
Project No. E90-268

DATE DRILLED: 8-21-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5	NO	0.0	12 16		ML	SILT (ML); reddish-brown, dry, drills firm.
10	NO	0.0	10 10		ML	Loose fine sandy SILT (ML); red, slightly moist, drills easy.
15	NO	0.0	17 33		GM	Dense GRAVEL with coarse sand (GM); poorly sorted, subangular, slightly moist, drills easy.
20	NO	6.3	14 20		SP	Medium dense fine SAND (SP); green, slightly moist, drills easy.
25	NO	0.0	20 25		ML	Dense fine sandy SILT (ML); slightly moist, drills easy.

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Boring No. 6
Project No. E90-268

DATE DRILLED: 8-21-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					ML	
30	NO	0.0	15 20		ML	Clayey SILT (ML); tan, slightly moist, drills firm.
35	NO	0.0	25 31			Hard at 35 feet.
						BOTTOM OF BORING
40						
45						
50						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW1

Project No. E90-268

DATE DRILLED: 9-5-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5	NO	0			ML	SILT (ML); with minor fine to coarse sand, brown, dry, drills firm.
10	NO	0			ML	Very fine sandy-SILT (ML); brown, dry, drills firm.
15	NO	0			SM	Silty fine to medium SAND (SM); reddish-brown, dry, drills firm.
20	NO	0			ML	Clayey, fine sandy SILT (ML); brown, slightly moist, drills firm.
25	NO	0			ML	Clayey SILT (ML); brown, slightly moist, drills firm.

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW1

Project No. E90-268

DATE DRILLED: 9-5-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
	NO	0			ML	
					SM	Silty, fine to coarse SAND (SM); slightly moist, drills very firm.
30						
	NO	0			ML	Fine sandy SILT (ML); brown, slightly moist, drills very firm.
35						
					ML	Clayey SILT (ML); tan, slightly moist, drills very firm.
40	NO	0				
					CL	Fine sandy CLAY (CL); gray, saturated.
45						
						BOTTOM OF BORING
50						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW2
Project No. E90-268

DATE DRILLED: 9-6-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
						Asphaltic Concrete
					GM	GRAVEL (GM); with sand and silt; brown; drills easy; fill material.
5	NO	0.5			ML	SILT (ML); with clay; dark brown; moist, drills easy.
10					ML	SILT (ML); with clay; brown; moist; drills firm.
15	NO	0.2				Decreasing clay content, increasing sand content below15 feet.
	NO	2			ML	SILT (ML); with medium sand and clay; dark brown-green; moist; drills firm.
20						Increasing clay content below 20 feet.
25					CL	CLAY (CL); with silt; brown; drills firm.

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 1 of 2

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well .No. TW2

Project No. E90-268

DATE DRILLED: 9-6-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	
	YES	15			SW	Fine to medium SAND (SW); brown; subangular to subrounded, slightly micaceous, tan drills firm.
30	YES	43			ML	SILT (ML); with clay and traces of sand; brown-green; drills firm.
35	YES	2.5			CL	Silty CLAY (CL); brown-green; drills firm.
40						
45	NO	1				
50						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 2 of 2

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW3

Project No. E90-268

DATE DRILLED: 9-4-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
5					SM	Dense silty fine to medium SAND (SM); brown, moist, drills easy.
10	NO	0.0	31 29			
					ML	Fine sandy SILT (ML); gray, slightly moist, drills firm.
15	NO	0.0	30 32		SW	Dense fine to coarse SAND (SW); with sandy fine gravel brown, damp, drills easy.
20	NO	0.0	33 37		ML	Hard clayey SILT (ML); reddish-brown, slightly damp, drills firm.
25	NO	0.0	XX		ML	Dense fine sandy SILT (ML); brown, slightly damp, drills firm.

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW3

Project No. E90-268

DATE DRILLED: 9-4-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: G

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					ML	
					ML	Hard clayey SILT (ML); brown, slightly moist, drills firm.
30	NO	0.0	23 17		ML	Dense sandy SILT (ML); brown, slightly moist, drills firm.
					ML	Very hard clayey SILT (ML); brown, slightly moist, drills firm.
35	NO	0.0	19 ref.			
					ML	Fine sandy SILT (ML); tan, moist, drills easy.
40	NO	0.0	6 18		SM	Medium dense silty fine SAND (SM); tan, saturated, drills firm.
45					ML	Fine sandy SILT (ML); tan, saturated, drills firm.
50						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW4

Project No. E90-268

DATE DRILLED: 9-9-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
						Asphaltic Concrete
					GM	GRAVEL (GM); with sand, silt, and clay; dark brown; drills easy.
	NO	0.2			ML	SILT (ML); with clay; dark brown; drills easy.
5						
					CL	CLAY (CL); with silt; dark brown; moderate plasticity, drills easy.
10	NO	1.4	XX			
						Green-gray below 13 feet, drills firm.
15	NO	0.3	XX			
					SM	SAND (SM); medium; gray-green, drills easy.
20	NO	0.3	XX			
					SM	SAND (SM); fine, with medium sand and silt; brown to gray-green; loose, drills easy.
25	NO	0.3	XX			

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW4

Project No. E90-268

DATE DRILLED: 9-9-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					SM	
30	NO	0	XX		SW	SAND (SW); medium to fine; pale brown; loose, drills easy.
35	NO	0	XX			
40	NO	0	XX		SM	SAND (SM); fine, with silt; pale green-brown; moderately firm, saturated at 39 feet; drills firm.
45					CL	Silty CLAY (CL); brown; drills firm.
50						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW4

Project No. E90-268

DATE DRILLED: 9-9-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	
55						BOTTOM OF BORING
60						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW5

Project No. E90-268

DATE DRILLED: 9-13-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5	NO	120			ML	Fine sandy SILT (ML); brown, slightly moist, drills easy.
10	NO	27.0			SM	Silty, fine to coarse SAND (SM); with gravel, red, dry, drills easy.
15	NO	23.0			ML	Clayey SILT (ML); reddish-brown, slightly moist, drills easy.
20	NO	20.0				
	NO	20.0			ML	Very fine sandy, clayey SILT (ML); brown, slightly moist, drills easy.
25						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW5
Project No. E90-268

DATE DRILLED: 9-13-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
30	NO	120			ML	
35	NO	27			SM	Silty fine to coarse SAND (SM) with gravel; red in color, dry, drills easy.
40	NO	27			ML	Clayey SILT (ML); red-brown in color, slightly damp, drills easy.
45	NO	20				
50	NO	20				
						BOTTOM OF BORING

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW6
Project No. E90-268

DATE DRILLED: 9-11-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
5		1.0			SM	Sandy-SILT (SM), with minor gravel, subrounded, brown, loose, drills easy.
10		0.0			CL	Silty-CLAY (CL), brown, slight plasticity, drills easy.
15		0.0			ML	SILT (ML), with clay, orange-brown, slight plasticity, drills easy to firm. Drills firmer downwards.
20		30.0			CL	CLAY (CL), with silt, brown, moderate plasticity, drills firm.
25	YES	144.0				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW6

Project No. E90-268

DATE DRILLED: 9-11-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
	SLGT	30			SW	Fine to medium SAND (SW); with clay; pale brown to pale green-brown, drills easy.
		91				
30	MOD	184				
					CL	CLAY (CL); with silt; gray-green to brown-green, moderate plasticity, drills firm.
	SLGT	804				
35		33				
		54				
					SP	SAND (SP); medium; pale brown; drills easy to slightly firm.
40		3.6				
					CL	CLAY (CL); with minor silt; green-brown, stiff, moderate plasticity, drills firm to slightly firm.
45		3				
50		140				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW6

Project No. E90-268

DATE DRILLED: 9-11-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	
55						BOTTOM OF BORING
60						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW7

Project No. E90-268

DATE DRILLED: 9-12-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
						Asphaltic Concrete
					GM	GRAVEL (GM); angular to subrounded, with silt and sand; brown, loose, drills easy.
5	NO	1.1	XX		ML	SILT (ML); with fine sand and clay; pale brown; loose, drills easy.
						Increasing clay content downward at 6 feet.
					ML-CL	SILT-CLAY (ML-CL); brown; slightly plastic; drills firm.
10	NO	0	XX			
						SILT (ML); with clay; orange-brown, slightly plastic, drills firm.
15	NO	0.7	XX			
						With minor clay; pale brown; drills firm below 16 feet.
					ML	
						With clay; orange-brown, slightly plastic, drills firm below 18 feet.
20	NO	0	XX			
						With clay; brown; no plasticity; drills hard below 22 feet.
25	NO	5.1	XX			

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well No. TW7

Project No. E90-268

DATE DRILLED: 9-12-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: Approx. 175 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
30		5.1			ML	
35		0			SM	Fine to medium SAND; (SM); with silt; brown; drills firm.
40		3.7			SW	Fine to medium SAND (SW); brown; drills easy.
45					CL	CLAY (CL); with silt; dark brown, drills firm.
50		0				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Temporary Well TW7

Project No. E90-268

DATE DRILLED: 9-12-91 TYPE OF BORING: 6-5/8" I.D. Hollow Stem Auger

HOLE ELEV: Approx.175 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: LS

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	
55						BOTTOM OF BORING
60						

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

Sheet 3 of 3

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW5

Project No. E90-268

DATE DRILLED: 9-16-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.96 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
					CL	Asphaltic concrete and aggregate base at surface Firm CLAY (CL); with silt; moderately plastic, dark brown, slightly moist, drills easy.	
5	NO	0.0	10 10		CL	Firm silty CLAY (CL); slightly plastic, tan, slightly damp, drills easy. Becomes brown, moist, and moderately plastic below 6 feet.	
10	NO	0.0	6 8		ML	Stiff SILT (ML); with clay, brown, slightly moist, drills easy.	
15	NO	0.0	30 30		GP	Dense medium to coarse sand, fine GRAVEL (GP); dark brown, moist, drills firm.	
20	SLGT	8.7	15 21		ML	Very stiff SILT (ML); with clay, brown, moist, drills firm.	
25	SLGT	46.5	13 23				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW5

Project No. E90-268

DATE DRILLED: 9-16-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.21 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
					ML		
30	MOD	2.6	27 27		SM	Dense silty fine SAND (SM); cemented, medium gray, damp, drills firm. Old petroleum odor.	
35	NO	3.8	23 27		SP	Poorly graded SAND (SP); 3% coarse sand, 64% medium sand, 31% fine sand, 2% pass # 200 sieve, tan, damp, drills firm.	
40	SLGT	3.4	25 37		SM	Silty SAND (SM); 22% coarse sand, 40% medium sand, 14% fine sand, 26% pass #200 sieve, tan, damp, drills firm.	
45	SLGT	2.1	12 15			Silty SAND (SM); 2% medium sand, 55% fine sand, 43% pass #200 sand, tan, saturated, drills firm.	
50	NO	0.0	10 12		CL	Silty CLAY (CL); 1% medium sand, 10% fine sand, 42% silt, 22% clay, 25% colloids, brown, saturated, drills firm.	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW5

Project No. E90-268

DATE DRILLED: 9-16-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.21 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
						CLAY (CL); moderately plastic, light brown, saturated.	
60					CL		
						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW6

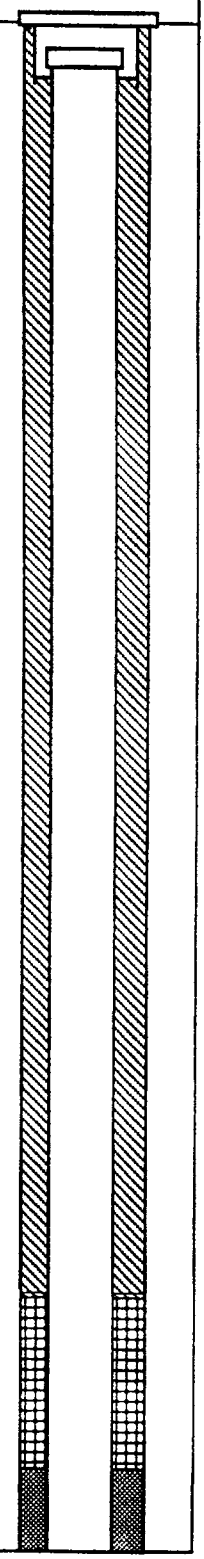
Project No. E90-268

DATE DRILLED: 8-21-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.20 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
5	NO	0.0	8 14		ML	Medium dense SILT (ML); with minor well graded sand, reddish-brown, slightly moist, drills easy.
10	NO	0.0	14 23			
15	NO	0.0	8 9		CL	Lean CLAY (CL); with minor sand, 1% coarse sand, 3% medium sand, 7% fine sand, 51% silt, 32% clay, 6% colloids, brownish-green, slightly moist, drills easy.
20	NO	0.0			SP	Medium dense, medium to coarse SAND (SP); with minor gravel, subangular grains, poorly sorted, slightly moist, drills easy. Medium sand fraction diminishes at 19 feet.
			23 37		CL	Stiff CLAY with minor silt (CL); reddish-green, slightly moist, drills firm.
25	SLGT	431			SC	Clayey SAND (SC); 13% coarse sand, 24% medium sand, 25% fine sand, 38% pass #200 sieve, reddish-brown, slightly moist, drills firm.

WELL CONSTRUCTION



*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW6

Project No. E90-268

DATE DRILLED: 8-21-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.20 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
	STR	149	20 24		SM	Silty SAND (SM); 22% medium sand, 55% fine sand, 33% pass #200 sieve, greenish-gray, slightly moist, drills firm.	
	MOD	150					
		397					
30	SLGT						
	SLGT	345	42 32		SP	Poorly graded SAND (SP); subangular to subrounded grains, 2% coarse sand, 62% medium sand, 36% fine sand, tan, drills firm.	
	SLGT						
	SLGT				SM	Silty SAND (SM); 1% coarse sand, 28% medium sand, 24% fine sand, 47% pass #200 sieve, tan, slightly moist, drills easy.	
35	SLGT	6.7	15 22				
	SLGT	224			ML	Sandy SILT (ML); 2% coarse sand, 9% medium sand, 16% fine sand, 37% silt, 30% clay, 6% colloids, tan to brownish-red, with iron stained mottles, slightly moist, drills esay.	
40	NO	2.0	21 27				
		715				Lean CLAY (CL); with silt, 1% coarse sand, 3% medium sand, 22% fine sand, 58% silt, 6% clay, 11% colloids, tan to reddish-brown, saturated, drills easy.	
			12 23				
45					CL	Stiff silty CLAY (CL); brownish-tan, saturated, drills easy.	
50							

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW6

Project No. E90-268

DATE DRILLED: 8-21-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.20 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
						BOTTOM OF BORING	
60							

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW7

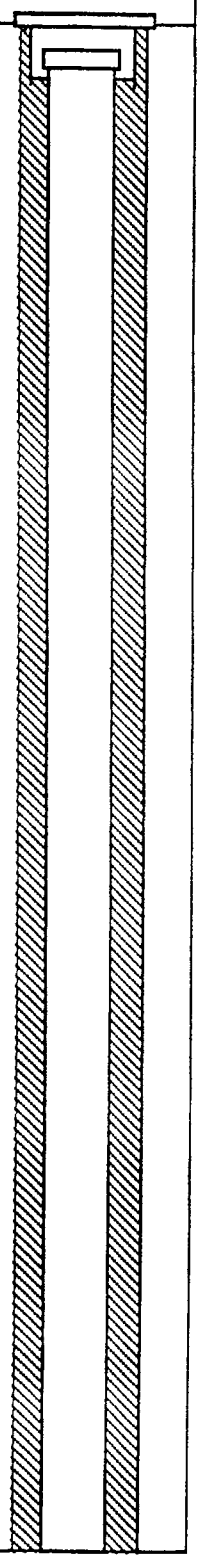
Project No. E90-268

DATE DRILLED: 9-19-91 & 9-20-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.95 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY SC/GI

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL/ML	Asphaltic Concrete and aggregate base at surface. Silty CLAY/clayey SILT (CL/ML); dark reddish-brown, damp, drills slightly firm. Lighter in color, slightly damp, and drills firm below 3 feet.
5	NO	0.0	15 20		ML	Medium dense fine sandy SILT (ML); dark gray to brown, slightly moist, drills easy.
10	NO	0.0	10 11		ML	Very stiff fine sandy, clayey SILT (ML); dark gray-brown, slightly moist, drills easy.
15	MOD	0.0	15 24		ML/SW	Very stiff clayey SILT (ML); interbedded with fine gravelly well graded SAND (SW); the silt is dark bluish-gray and the sand is dark gray in color; damp drills easy.
20	NO	0.0	15 20		SM	Medium dense silty fine SAND (SM); dark greenish-gray, damp, drills easy.
25	NO	10.0	40 41		SM	Dense silty fine SAND (SM); tan, slightly damp, drills firm.

WELL CONSTRUCTION



*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW7

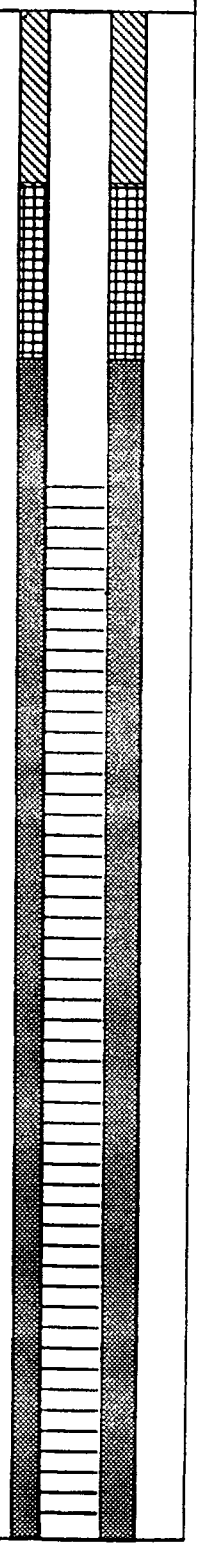
Project No. E90-268

DATE DRILLED: 9-19-91 & 9-20-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.95 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: SC/GI

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
					SM	
30	NO	3.4	13 19		SM	Medium dense silty, very fine SAND (SM); tan to gray, slightly damp, drills easy.
35	NO	4.3	24 24		SC	Clayey SAND (SC); 1% coarse sand, 25% medium sand, 45% fine sand, 29% pass #200 sieve, brown to tan, slightly damp, drills firm.
40	NO	5.0	26 30		ML	Sandy SILT (ML); 2% coarse sand, 19% medium sand, 42% fine sand, 37% pass #200 sieve, tan, slightly damp, drills easy.
45	NO	4.3	23 26		SM	Silty, fine SAND (SM); 1% coarse sand, 2% medium sand, 60% fine sand, 37% pass #200 sieve, slightly micaceous, tan, saturated, drills easy.
50	NO		15 15		CL	Lean CLAY (CL); with sand, tan, saturated, drills easy.

WELL CONSTRUCTION



*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW7

Project No. E90-268

DATE DRILLED: 9-19-91 & 9-20-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.95ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: SC/GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
60						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW8

Project No. E90-268

DATE DRILLED: 9-17-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 179.05 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: RH

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
					CL	Asphaltic Concrete and aggregate base at surface. Firm CLAY (CL); with silt, moderately plastic, dark brown, slightly moist, drills easy.
5	NO	0.0	18 40		CL	Hard silty CLAY (CL); slightly plastic, tan, slightly damp, drills easy. Becomes brown, moist, and moderately plastic below 6 feet.
10	NO	0.0	8 9		ML	Stiff SILT (ML); with clay, brown, slightly moist, drills easy.
15	NO	0.0	15 15		SP/SW	Medium dense fine to medium SAND (SP/SW); orange-brown, slightly moist, drills easy.
20	NO	0.0	16 27		GP	Dense, medium to coarse sandy, fine GRAVEL (GP); orange-brown, slightly moist, drills firm.
25	NO	0.0	15 27		ML	Hard SILT (ML); with clay, brown, slightly moist, drills firm.

WELL CONSTRUCTION

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW8

Project No. E90-268

DATE DRILLED: 9-17-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 179.05 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: SC/GI

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
30	NO	0.0	10 20		CL	Silty CLAY (CL); with minor sand, 4% coarse sand, 20% medium sand, 19% fine sand, 57% pass #200 sieve, tan, slightly moist, drills firm.	
35	NO	0.0	15 23		SC	Clayey SAND (SC); 1% coarse sand, 18% medium sand, 31% fine sand, 50% pass #200 sieve, tan, damp, drills firm.	
40	NO	0.0	18 30		CL	Lean CLAY (CL); with silt 7% medium sand, 10% fine sand, 39% silt, 34% clay, 10% colloids, tan-brown, damp, drills firm.	
45	NO	0.0	10 18		SM	Silty, fine SAND (SM); 3% coarse sand, 11% medium sand, 53% fine sand, 33% pass #200 sieve, tan, saturated, drills easy.	
50					CL	Silty CLAY (CL); light brown, saturated, drills firm.	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW8

Project No. E90-268

DATE DRILLED: 9-19-91 & 9-20-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 179.05 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: SC/GI

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
						BOTTOM OF BORING	
60							

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW9

Project No. E90-268

DATE DRILLED: 10/9-10/91 TYPE OF BORING: 6 5/8" ID Hollow Stem Auger

HOLE ELEV: 177.08 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
5	NO	0	15 15		ML	SILT (ML); with clay, dark brown, slightly moist, drills firm. Reddish-brown below 3 feet.	
10	NO	0	14 19		CL	CLAY (CL); greenish brown with red-brown mottles of silt, burrows, drills firm, slightly moist.	
15	NO	0	25 35		ML	Fine sandy SILT (ML); with gray clay nodules. Grades to fine sandy, clayey SILT (ML); with minor medium sand, mottled red-brown and green-gray, below 15 feet.	
20	NO	0	14 37				
25	NO	0	27 40				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW9

Project No. E90-268

DATE DRILLED: 10-10-91 TYPE OF BORING: 6 5/8" ID Hollow Stem Auger

HOLE ELEV: 177.08 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
					ML		
					SW	Fine to medium SAND (SW); pink-tan, moist, drills easy.	
30	NO	0	36 36				
					ML	Fine sandy SILT (ML); red-brown, slightly moist, moderately micaceous, slightly elastic.	
35	NO	0	50 ref.				
					ML	SILT (ML); green-gray, moist, drills firm.	
40	NO	0	25 34				
					CL	Green-gray, silty CLAY (CL); saturated, drills easy.	
45	NO	0	12 15				
50							

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW9

Project No. E90-268

DATE DRILLED: 10-10-91 TYPE OF BORING: 6 5/8" ID Hollow Stem Auger

HOLE ELEV: 177.08 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
60						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW10

Project No. E90-268

DATE DRILLED: 10-15-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.32 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
					CL	Very hard silty CLAY (CL); elastic, red-brown, slightly moist, drills frim. Contains medium sand from 3-4 feet.	
5	NO	0	37 45		ML	SILT (ML); tan, granular, homogeneous.	
					ML	Clayey SILT (ML); red-brown, small 1/8" mottles, biogenic structures slightly moist, drills firm.	
10	NO	0	14 25				
15	NO	12	18 24		SM	Dense, silty fine SAND (SM); red-brown, slightly moist, drills firm.	
					ML	Dense, fine sandy SILT (ML); light red-brown, slightly moist, drills firm.	
20	NO	0	21 33				
25	NO	0	27 30				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW10
Project No. E90-268

DATE DRILLED: 10/15-16/91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 176.94 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
30	NO	0	24 30		ML	Silt (ML); light brown, moist, drills firm.	
35	NO	0	20 25		CL	Hard clayey SILT (ML); moist, light brown, slight mottling, moist, drills firm.	
40	NO	0	15 22		CL	Very stiff CLAY (CL); elastic, gray with light brown mottles, slightly moist, drills firm.	
45	NO	0	10 12				
50	NO	0	7 10				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW10

Project No. E90-268

DATE DRILLED: 10-15-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.32 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
60						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW11

Project No. E90-268

DATE DRILLED: 10-7-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 176.96 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
5	NO	0	20 29			SILT (ML); light brown, slightly moist, drills easy.	
10	NO	0	15 20		ML		
15	NO	0	15 22				
20	NO	0	27 30		ML	SILT (ML); red-brown, moist drills firm.	
25	NO	0	26 50		ML	Fine sandy SILT (ML); trace medium sand, red-brown, very micaceous, slightly plastic, moist, drills firm.	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW11

Project No. E90-268

DATE DRILLED: 10-7-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 176.96 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undisturbed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
30	NO	0	28 35		ML		
					GM	Gravel (GM); in gray-brown silt matrix.	
35	NO	0	28 40		ML	SILT (ML); green-gray with red-brown mottles, moist, drills firm.	
40	NO	0	26 34				
45	NO	0	10 15		CL	CLAY (CL); tan, mottled, saturated, drills firm.	
50	NO	0	5 9				

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well .No. MW11

Project No. E90-268

DATE DRILLED: 10-7-91 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 176.96 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: MF

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					CL		
60						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW12

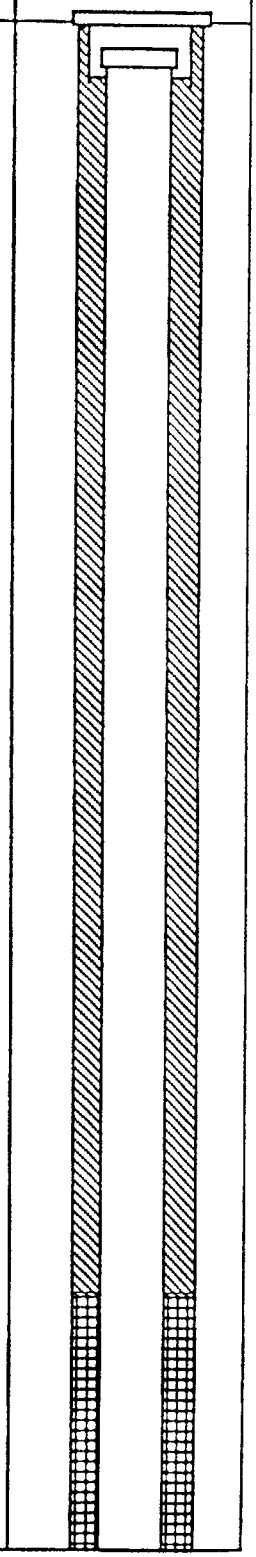
Project No. E90-268

DATE DRILLED: 3/23/92 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 178.80 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: TC

Depth (Ft)	Odor	PID Reading	Undistrubed Sample/Blow Counts	Graphic Log	Soil Classification	SOIL DESCRIPTION
						4" to 6" Asphaltic concrete paving.
						Silty fine to medium SAND (SM); light to medium brown, damp, drills firm.
5	NO	0.0	9 0 2			
10	NO	0.0	9 1 8		SM	
15	NO	0.0	1 0 1 5			Tight at 17 feet.
20	NO	0.0	2 7 4 3			Light brown with gray at 20 feet.
25	NO	0.0	2 3 4 0			

WELL CONSTRUCTION



*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW12

Project No. E90-268

DATE DRILLED: 3/23/92 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.80 ft. above MSL GROUNDWATER LEVEL: Approx.40 ft. below grade LOGGED BY: TC

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
30	NO	0.0	20 25		SM		
35	NO	0.0	22 22		SP	Fine SAND (SP); light to medium brown, damp, drills firm.	
40	NO	0.0					
45					SW	Fine to coarse SAND (SW); light to medium brown, moist, drills firm.	
50					ML	SILT (ML); light to medium brown, saturated, drills firm.	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

Project: Former Mobil Service Station #10-NX9
655 East Main Street, Merced, California

Monitoring Well No. MW12

Project No. E90-268

DATE DRILLED: 3/24/92 TYPE OF BORING: 6-5/8" ID Hollow Stem Auger

HOLE ELEV: 177.80 ft. above MSL GROUNDWATER LEVEL: Approx. 40 ft. below grade LOGGED BY: TC

Depth (Ft)	Odor	PID Reading	Undisturbed Sample	Graphic Log	Soil Classification	SOIL DESCRIPTION	WELL CONSTRUCTION
55					ML		
60						BOTTOM OF BORING	

*R = Refusal, greater than 100 blows/foot

KRAZAN & ASSOCIATES, INC.

GEOTRACKER ID#:T0604700187

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	CAL.			153	242

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
X	Mer.	4	Mer. 12		12

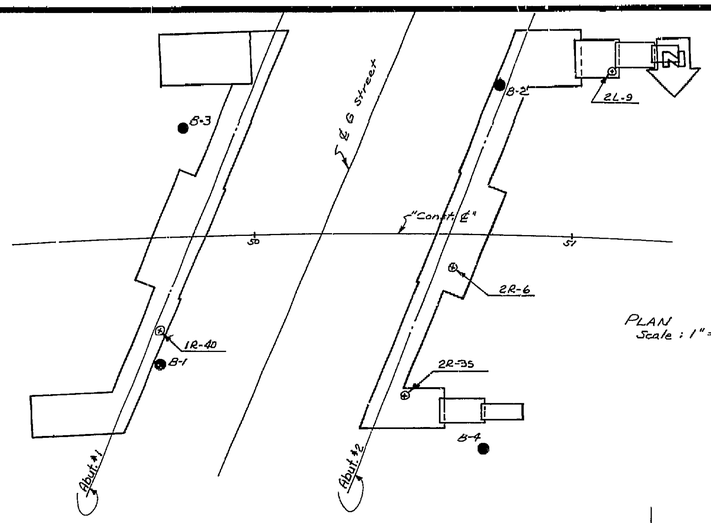
Date Approved May 16, 1960

AS BUILT PLANS
Contract No. 61-10T13C9
Date Completed
Document No. 00001124

BRIDGE DEPARTMENT

FIELD STUDY	A. R. Haser	4-1958
DRAWN	A. R. Haser	4-15-58
CHECKED	A. Hay	4-15-58

Approved Recommended by: Bridge Engineer
Approved: Chief Bridge Engineer



PLAN
Scale : 1" = 20'

BM - Mon. #20 - at ℄ intersection 13th Street & G Street in Merced. Elev. 166.61

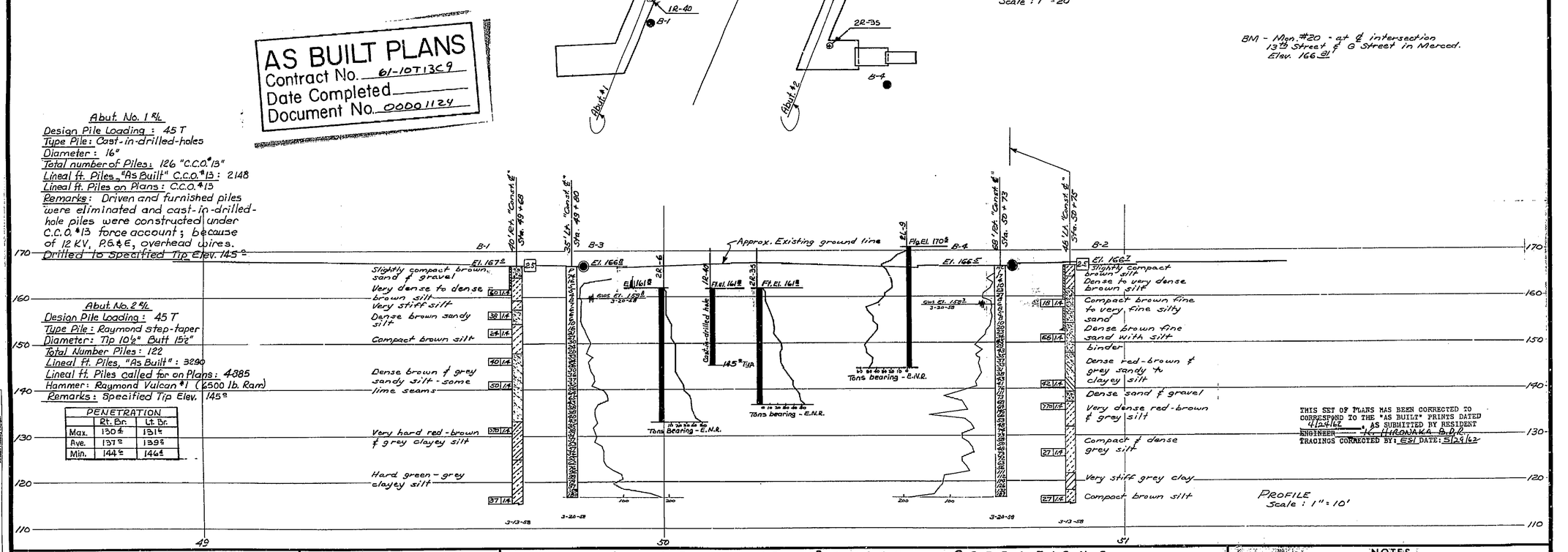
Abut. No. 1 ℄

Design Pile Loading : 45 T
Type Pile : Cast-in-drilled-holes
Diameter : 16"
Total number of Piles : 126 "C.C.O.#13"
Lineal ft. Piles "As Built" C.C.O.#13 : 2148
Lineal ft. Piles on Plans : C.C.O.#13
Remarks : Driven and furnished piles were eliminated and cast-in-drilled-hole piles were constructed under C.C.O.#13 force account; because of 12 KV, P.G.&E. overhead wires.
Drilled to Specified Tip Elev. 145 ft

Abut. No. 2 ℄

Design Pile Loading : 45 T
Type Pile : Raymond step-taper
Diameter : Tip 10½" Butt 15"
Total Number Piles : 122
Lineal Ft. Piles, "As Built" : 3290
Lineal ft. Piles called for on Plans : 4385
Hammer : Raymond Vulcan #1 (26500 lb. Ram)
Remarks : Specified Tip Elev. 145 ft

PENETRATION	Rt. Br.	Lt. Br.
Max.	130 ft	131 ft
Ave.	137 ft	139 ft
Min.	144 ft	144 ft



PROFILE
Scale : 1" = 10'

THIS SET OF PLANS HAS BEEN CORRECTED TO CORRESPOND TO THE "AS BUILT" PRINTS DATED 4/24/62 AS SUBMITTED BY RESIDENT ENGINEER J.C. HIRONAKA B.D.R.
TRACINGS CORRECTED BY: ESI DATE: 5/29/62

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

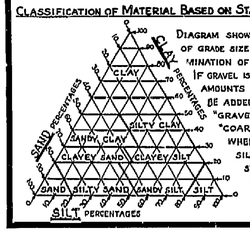


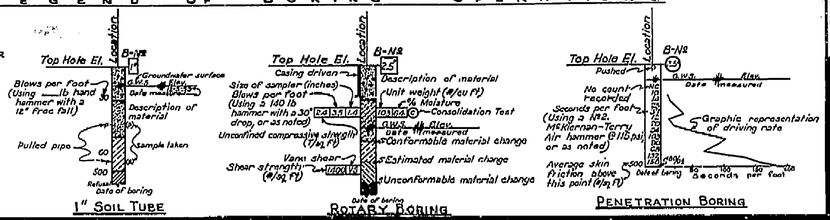
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- Gravel
- Sand
- Silt
- Clay
- Sandy Clay or Clayey Sand
- Sandy Silt or Silty Sand
- Silty Clay or Clayey Silt
- Peat and/or Organic Matter
- Fill Material
- Igneous Rock
- Sedimentary Rock
- Metamorphic Rock

LEGEND OF BORING OPERATIONS

- Plan of any boring
- Penetrometer
- 2½" Cone Penetrometer
- Sampler boring (DRY)
- Rotary boring (WET)
- Auger boring (DRY)
- Jet boring
- Core boring
- Test pit



NOTES

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

"G" STREET UNDERCROSSING

LOG OF TEST BORINGS

SCALE As Noted	BRIDGE 39-142 R/L	FILE	DRAWING C-6000-12

REL. DRAWING NO. P-6009-14

PE-6009-2

153

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE ____ SIGNATURE ____ TITLE ____

BR39-0142R/L

MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM
SCALE 1" = 50'
SCALE 1" = 20'
SCALE 1" = 10' or 1" = 100'
SCALE 1" = 40'

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DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
10	Mer.	99	Merced	11	11

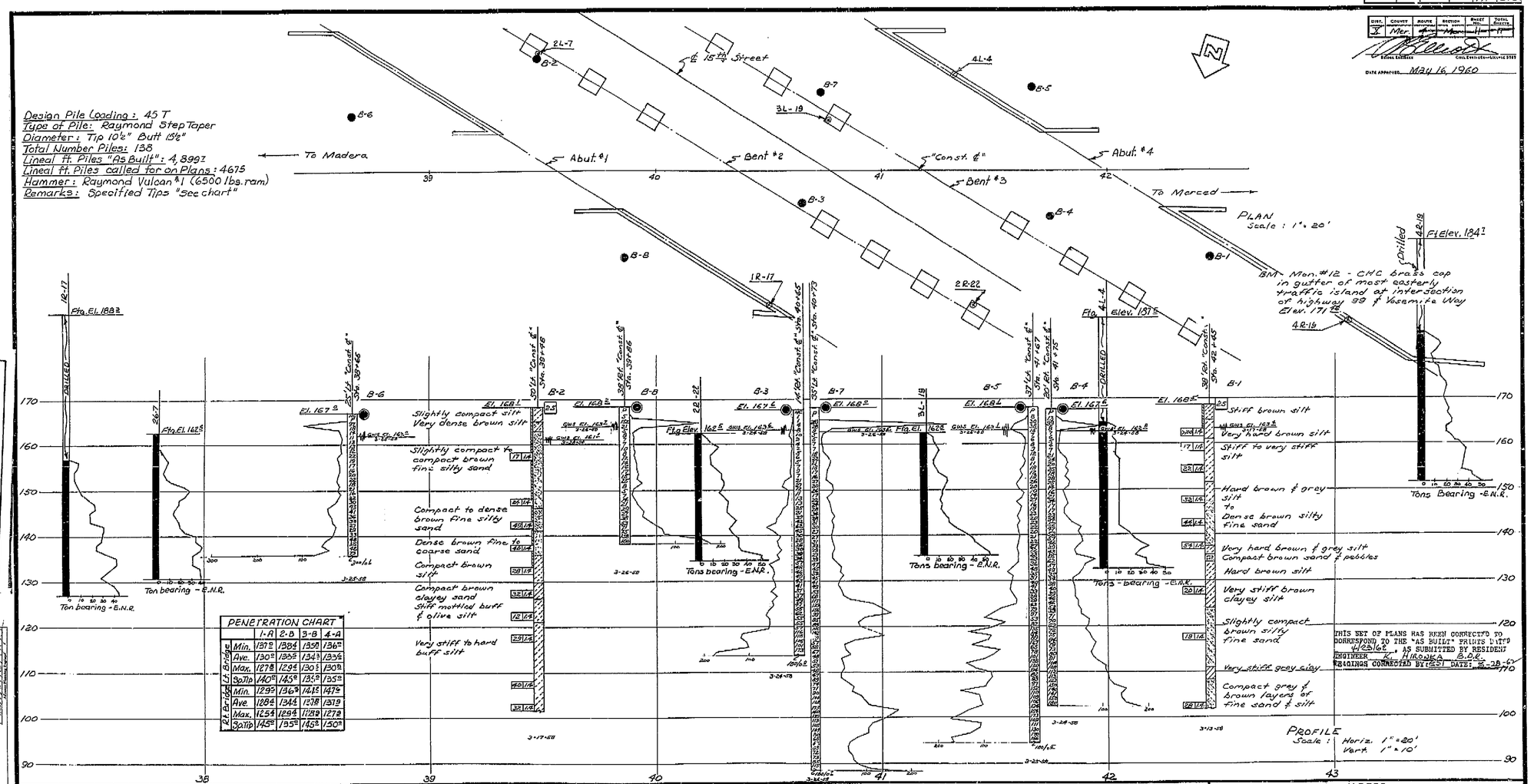
FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEARS	SHEET NO.	TOTAL SHEETS
7	CAL.			141	242

CIVIL ENGINEER — CIVIL ENGINEER — LICENSE 5993

DATE APPROVED: MAY 16, 1960

AS BUILT PLANS
Contract No. 61-107134
Date Completed
Document No. 6000112

Design Pile Loading: 45 T
Type of Pile: Raymond StepTaper
Diameter: Tip 10¾" Butt 15¾"
Total Number Piles: 138
Lineal ft. Piles "As Built": 4,899
Lineal ft. Piles called for on Plans: 4675
Hammer: Raymond Vulcan #1 (6500 lbs. ram)
Remarks: Specified Tips "See chart"



PENETRATION CHART		1-A	2-B	3-B	4-A
1st Bridge	Min.	187'	188'	135'	136'
	Ave.	190'	188'	134'	135'
	Max.	192'	192'	130'	130'
	Tip	140'	145'	132'	135'
2nd Bridge	Min.	129'	136'	141'	147'
	Ave.	128'	134'	131'	131'
	Max.	125'	128'	119'	127'
	Tip	145'	155'	145'	150'

	1st	2nd
FIELD STUDY	K. E. Hazen	K. E. Hazen
DRAWN	K. H. Hoover	K. H. Hoover
CHECKED	W. F. Kelly	W. F. Kelly
Approved Recommended by	Asst. Bridge Engr.	Asst. Bridge Engr.
	6-16-58	6-16-58

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

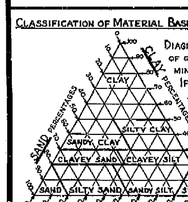


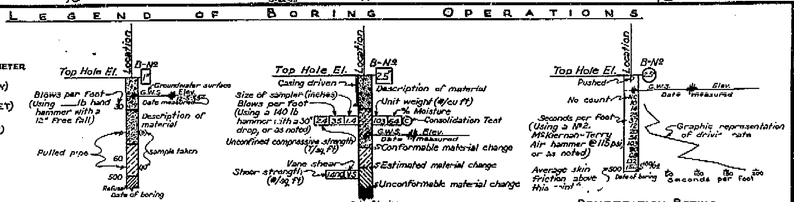
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND". THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- P — PENETROMETER
- 2¼" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT



NOTES

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

15TH STREET UNDERCROSSING

LOG OF TEST BORINGS

SCALE As Noted | BRIDGE 39-139 R/L | FILE E-39 | DRAWING C-5986-1-1

PR-5986-2

THIS SET OF PLANS HAS BEEN CORRECTED TO CORRESPOND TO THE "AS BUILT" PRINTS DATED 4/23/62, AS SUBMITTED BY RESIDENT ENGINEER K. HIKONEA B.O.E.
TRACINGS CORRECTED BY (TEST DATE) 5-28-62

PREL. DRAWING NO. P-

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE ____ SIGNATURE ____ TITLE ____

141

BR39-0139R/L

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FED. ROAD DIV. NO	STATE	PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
7	CAL.			118	242

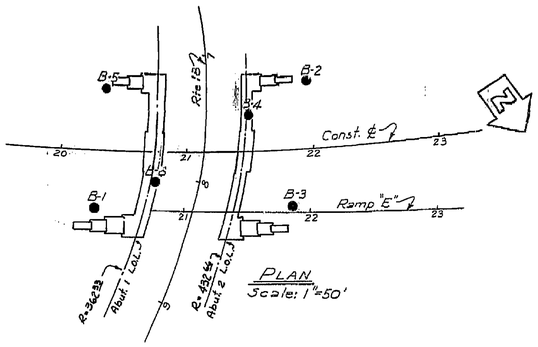
DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
X	Mer	4	Main	11	11

DATE APPROVED May 16, 1960

BRIDGE DEPARTMENT

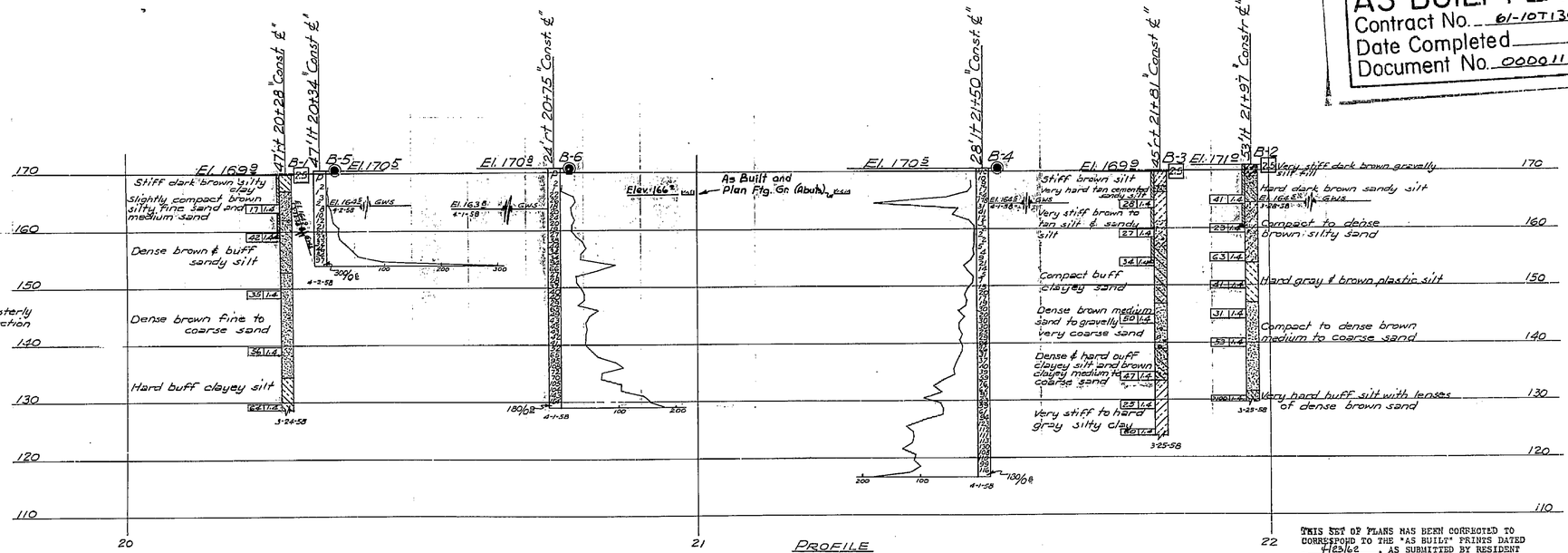
FIELD STUDY	Nelson	3-58
DESIGN		5-58
CHECKED	Nelson	5-58

Approval Recommended by [signature] Chief, Br. & Str. Engr.



PLAN
Scale: 1"=50'

AS BUILT PLANS
Contract No. 61-10T13C9
Date Completed
Document No. 00001124



PROFILE
Scale: 1"=10'

THIS SET OF PLANS HAS BEEN CORRECTED TO CORRESPOND TO THE "AS BUILT" PRINTS DATED 4/23/62, AS SUBMITTED BY RESIDENT ENGINEER K. HIROSAKA B.O.R.
TRACINGS CORRECTED BY: EST DATE: 5/23/62

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

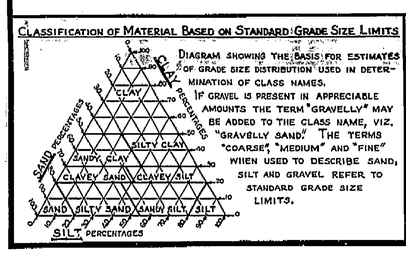


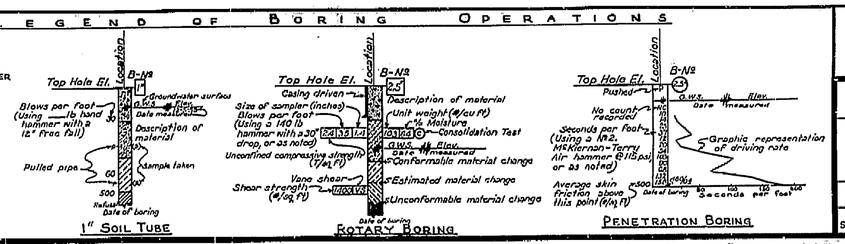
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- Gravel
- Sand
- Silt
- Clay
- Sandy Clay or Clayey Sand
- Sandy Silt or Silty Sand
- Silty Clay or Clayey Silt
- Peat and/or Organic Matter
- Fill Material
- Igneous Rock
- Sedimentary Rock
- Metamorphic Rock

LEGEND OF BORING OPERATIONS

- Plan of any boring
- P Penetrometer
- 2½" Cone Penetrometer
- Sampler boring (DRY)
- Rotary boring (WET)
- Auger boring (DRY)
- Jet boring
- Core boring
- Test pit



NOTES

[redacted]

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

RTE 4/48 SEPARATION

LOG OF TEST BORINGS

SCALE	BRIDGE	FILE	DRAWING
As shown	39-140 R/L	E-1.32	C-6007-11

PREL. DRAWING NO. P-6007(2)

PR-6007-3

118

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE ____ / ____ SIGNATURE ____ / ____ TITLE ____ / ____



BR39-0140R/L

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ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite 201, Modesto, California, 95351

LOG OF WELL MW7

PROJECT HUGHES PROPERTY | LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA | PROJECT NO. 54.25492.0001
DATE DRILLED 10/26/2009 | LOGGED BY JIM KUNDERT | REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING | DRILLER J. ADMIRE | METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN | DEPTH DRILLED 70 FT | DEPTH TO WATER : INITIAL FT | STATIC 64 FT
CASING TYPE PVC | DIAMETER 2 IN | SCHEDULE 40 | INTERVAL 0 FT TO 50 FT
SCREEN TYPE PVC | DIAMETER 2 IN | SLOT SIZE 0.020 IN | INTERVAL 50 FT TO 65 FT
FILTER PACK TYPE CEMEX NO. 3 | INTERVAL 48 FT TO 65 FT
SURFACE SEAL TYPE NEAT CEMENT OVER THREE FEET OF BENTONITE | INTERVAL 0 FT TO 48 FT
COMMENTS: WELL WAS INSTALLED WITH A LIMITED ACCESS DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	1.4	14 32 50/4"	CL	0.5/5' – 6.5/7.5' CLAY (CL): 10% FINE, POORLY GRADED SAND; 90% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, LOW-MEDIUM PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	8	0.0	50/6"	CL	6.5/7.5' – 9/10' SILTY CLAY (CL): 100% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, YELLOW-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	10	1.2	18 18 23	CL	9/10' – 13' FINE SANDY CLAY (CL): 30% FINE, POORLY GRADED SAND; 70% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW-MEDIUM PLASTICITY, BROWN TO YELLOW-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14	1.5	18 18 50/3"	CL	13' – 16.5/17.5' SILTY CLAY (CL): <10% VERY FINE, POORLY GRADED SAND; >90% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW-MEDIUM PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	16	1.4	37 50/4"		
	18	0.5	41 43 50/5"	CL	16.5/17.5' – 19/20' CLAY (CL): <5% VERY FINE, POORLY GRADED SAND; >95% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW-MEDIUM PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	20	0.0	14 50/6"	CL	19/20' – 21.5/22.5' CLAY (CL): <10% VERY FINE, POORLY GRADED SAND; >90% FINES; NONE-LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, MEDIUM PLASTICITY, BROWN TO RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	22				
	24	0.0	17 40 50/3"	CL	21.5/22.5' – 24/25' CLAY (CL): <10% VERY FINE, POORLY GRADED SAND; >90% FINES; NONE-LOW DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, MEDIUM PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	26	790	40 50/6"	SP	24/25' – 26.5/27.5' FINE SAND (SP): 90% FINE, POORLY GRADED SAND; 10% FINES; NONE-LOW DRY STRENGTH, SLOW DILATANCY, MEDIUM TOUGHNESS, NO PLASTICITY, RED-BROWN, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
			MW7-26.5		
	28	1917	21 50/5"	SP	26.5/27.5' – 29/30' BROWN TO LIGHT BROWN, SLIGHT TO MODERATE PRODUCT ODOR
	30	972	44 50/6"	SP	29/30' – 31.5/32.5' LIGHT GREY TO LIGHT OLIVE GREY, MODERATE PRODUCT ODOR
			MW7-31.5		
	32	1819	45 36 50/5"	SP	31.5/32.5 – 34/35' LOW TOUGHNESS, GREY TO REDDISH-YELLOW, SLIGHT TO MODERATE PRODUCT ODOR
	34				
	36	3081	18 21 31	SP	34/35 – 36.5/40' FINE SAND (SP): 100% FINE, POORLY GRADED SAND; GREY TO REDDISH-YELLOW, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
			MW7-35.5		
	38				
	40			SP	

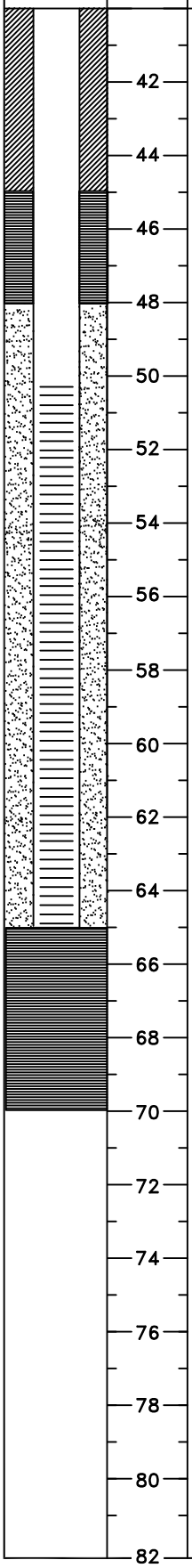
GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF WELL MW7

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:



DEPTH (FT.)	OVA (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG		DESCRIPTION
42	3753	46 50/5" MW7-41	SP	36.5/40 – 41.5'	MIXED SAND (SP): 95% FINE TO COARSE, POORLY GRADED SAND; 5% FINE, SEMIANGULAR GRAVEL; YELLOWISH-BROWN TO LIGHT BROWN WITH BLACK MICA, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST-WET, WEAK CEMENTATION, HOMOGENOUS
44			SP	41.5' – 46.5/50'	LIGHT OLIVE GREY TO GREYISH GREEN, DRY-MOIST
46	2245	32 50/6"			
48					
50	246	19 24 50/6"	SP	46.5/50' – 51.5/55'	FINE SAND (SP): 100% FINE, POORLY GRADED SAND; GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
52					
54			SC	51.5/55' – 56'	CLAYEY SAND (SC): 70% FINE, POORLY GRADED SAND; 30% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW-MEDIUM PLASTICITY, GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
56	126	9 50/6" MW7-56			
58				56' – 66.25'	CLAY (CL): 100% FINES; MEDIUM-HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, MEDIUM-HIGH PLASTICITY, LIGHT GREYISH BROWN, SLIGHT-MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
60	1.2	17 40 50/4"	CL		
62		MW7-61			
64					
66	0.3	13 40 50/2"	SP	66.25' – 66.5/70'	FINE SAND (SP): 100% FINE, POORLY GRADED SAND; LIGHT BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
68					
70	0.3	5 50/6"	SP	66.5/70 – 71.5'	MIXED SAND (SP): 100% FINE-MEDIUM, WELL-GRADED SAND; LIGHT BROWN TO YELLOW-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
72					
74					
76					
78					
80					
82					

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite 201, Modesto, California, 95351

LOG OF WELL MW8

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/30/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 70 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE PVC DIAMETER 2 IN SCHEDULE 40 INTERVAL 0 FT TO 60 FT
SCREEN TYPE PVC DIAMETER 2 IN SLOT SIZE 0.020 IN INTERVAL 60 FT TO 70 FT
FILTER PACK TYPE CEMEX NO. 3 INTERVAL 58 FT TO 70 FT
SURFACE SEAL TYPE NEAT CEMENT OVER THREE FEET OF BENTONITE INTERVAL 0 FT TO 58 FT
COMMENTS: WELL WAS INSTALLED WITH A LIMITED ACCESS DRILL RIG PAGE 1 OF 2

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
					HAND-AUGERED
	2				HARDPAN, BROWNISH YELLOW, STRONG CEMENTATION
	4				
	6				
	8				
	10				NO SAMPLES OR CHARACTERIZATION BETWEEN 5 FEET AND 50 FEET. SEE LOGS FOR MW5.
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

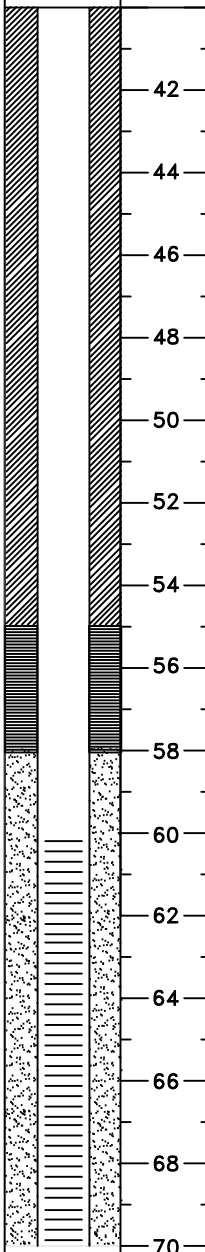
GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF WELL MW8

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:



DEPTH (FT.)	OVA (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG		DESCRIPTION
42					
44					NO SAMPLES OR CHARACTERIZATION BETWEEN 5 FEET AND 50 FEET. SEE LOGS FOR MW5.
46					
48					
50					
52					
54					
56	4.3	50/5" MW8-55'	SP	55 – 56.5/60'	GRAVELLY SAND (SP): 95% FINE-COARSE, POORLY GRADED SAND; 5% FINE, SEMI-ANGULAR TO SEMI-ROUNDED GRAVEL; YELLOW-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
58					
60	3.6	18 50/6" MW8-60'	CL	56.5/60 – 61.5/65'	CLAY (CL): 100% FINES; MEDIUM-HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW-MEDIUM PLASTICITY, LIGHT BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
62					
64					
66	1.6	13 50/5" MW8-65'	SP	61.5/65 – 66.5/70'	MIXED SAND (SP): 100% FINE-COARSE, POORLY GRADED SAND; LIGHT BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST-WET, WEAK CEMENTATION, HOMOGENOUS
68					
70	0.4	24 50/4" MW8-70'	SM	66.5/70 – 71.5'	SILTY SAND (SM): 60% FINE, WELL-GRADED SAND; 40% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, RED BROWN TO BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
72					
74					
76					
78					
80					
82					

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
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LOG OF WELL MW9

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 11/2/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 70 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE PVC DIAMETER 2 IN SCHEDULE 40 INTERVAL 0 FT TO 60 FT
SCREEN TYPE PVC DIAMETER 2 IN SLOT SIZE 0.020 IN INTERVAL 60 FT TO 70 FT
FILTER PACK TYPE CEMEX NO. 3 INTERVAL 58 FT TO 70 FT
SURFACE SEAL TYPE NEAT CEMENT OVER THREE FEET OF BENTONITE INTERVAL 0 FT TO 58 FT
COMMENTS: WELL WAS INSTALLED WITH A LIMITED ACCESS DRILL RIG PAGE 1 OF 2

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
	0				LAWN
	2				
	4				HAND-AUGERED
	6				
	8				
	10				NO SAMPLES OR CHARACTERIZATION BETWEEN 5 FEET AND 50 FEET. SEE LOGS FOR MW4.
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

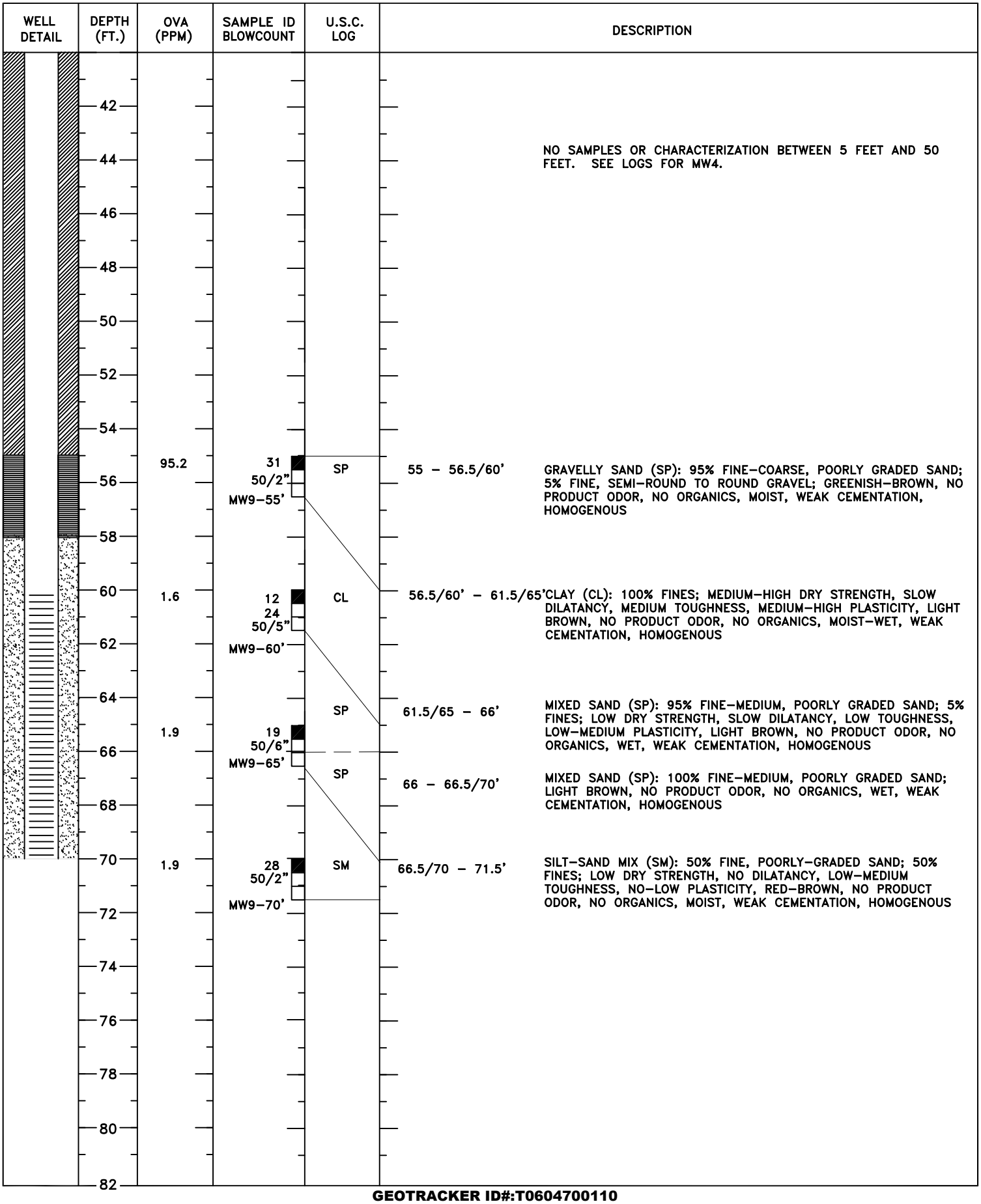
GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF WELL MW9

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:



GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
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LOG OF BORING SB5

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/27/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG PAGE 1 OF 2

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.0	25 50/5"	ML	0.5/5' – 6.5/10' SANDY SILT (ML): 20% FINE, POORLY GRADED SAND; 5% FINE, SEMI-ROUNDED GRAVEL; 75% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.0	24 45 50/4"	MH	6.5/10' – 11.5/15' CLAY-SILT MIX (MH): <5% FINE, POORLY GRADED SAND; >95% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.0	17 50/6"	CL	11.5/15' – 16.5/20' SANDY CLAY (CL): 25% VERY FINE, POORLY GRADED SAND; 75% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	3638	26 50/6"	CL	16.5/20' – 21.5/25' CLAY (CL): <10% VERY FINE, POORLY GRADED SAND; >90% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, LOW-TO-MEDIUM PLASTICITY, BROWN TO RED-BROWN, MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	22		SB5-20		
	24				
	26	1938	33 50/5"	CL	21.5/25' – 26.5/30' SANDY CLAY (CL): 10% FINE, POORLY GRADED SAND; 90% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, LOW PLASTICITY, BROWN TO RED-BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	4334	23 40 50/4"	SP	26.5/30' – 31.5/35' MIXED SAND (SP): 90% FINE-COARSE, POORLY GRADED SAND; 10% FINE GRAVEL; LIGHT BROWN TO BROWN, MODERATE TO STRONG PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB5-30		
	34				
	36	3730	7 14 45	SC	31.5/35-36.5/40' CLAYEY SAND (SC): 90% FINE, POORLY GRADED SAND; 10% FINES; NO-LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN TO OLIVE GREY, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	38		SB5-35		
	40			SP	

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB5

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG	DESCRIPTION
	42	1605	50/5"	SP	36.5/40 – 41.5/45' GRAVELLY SAND (SP): 90% FINE–COARSE, POORLY GRADED SAND; 10% FINE–COARSE, SEMI–ANGULAR TO SEMI–ROUNDED GRAVEL; BROWNISH–GREY, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	44				
	46	1621	50/4" SB5–45'	SP	41.5/45 – 46.5/50' MIXED SAND (SP): 100% FINE–MEDIUM, POORLY GRADED SAND; OLIVE GREY, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	48				46.5/50 – 50.5' CLAYEY SAND (SC): 70% FINE, POORLY GRADED SAND; 30% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW–MEDIUM PLASTICITY, GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	50	26.4	10 22 30	SC CL	50.5 – 51.5/55' CLAY (CL): 100% FINES; MEDIUM–HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, MEDIUM–HIGH PLASTICITY, LIGHT GREYISH BROWN, SLIGHT–MODERATE PRODUCT ODOR, NO ORGANICS, DRY–MOIST, WEAK CEMENTATION, HOMOGENOUS
	54				
	56	11.2	50/6" SB5–56'	SP	51.5/55 – 56.5' FINE SAND (SP): 90% FINE, POORLY GRADED SAND; 10% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO–LOW PLASTICITY, LIGHT BROWN TO BROWN, NO–SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST TO WET, WEAK CEMENTATION, HOMOGENOUS.
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				
	82				

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite 201, Modesto, California, 95351

LOG OF BORING SB6

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/27/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.2	7 14 31	CL	0.5/5' – 6.5/10' SANDY SILTY CLAY (CL): <10% FINE, POORLY GRADED SAND; >90% FINES; MEDIUM-HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.3	22 50/5"	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): 100% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, RED-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.2	12 50/6" SB6-15	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 100% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWNISH-YELLOW, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	523	14 31 50/5" SB6-20	CL	16.5/20' – 21.5/25' SILTY CLAY (CL): <5% VERY FINE, POORLY GRADED SAND; >95% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	22				
	24				
	26	1099	15 50/6"	ML	21.5/25' – 26.5/30' SANDY SILT (ML): 20% FINE, POORLY GRADED SAND; 80% FINES; NO-LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, RED-BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	4681	6 21 50/6" SB6-30	SP	26.5/30' – 31.5/35' MIXED SAND (SP): 100% FINE-COARSE, POORLY GRADED SAND; LIGHT BROWN TO BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32				
	34				
	36	3815	10 32 50/5"	SP	31.5/35-36.5/40' FINE SAND (SP): 95% FINE, POORLY GRADED SAND; 5% FINES; NO-DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, NO PLASTICITY, LIGHT BROWN TO BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	38				
	40			SP	

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB6

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG	DESCRIPTION
	42	4188	46 50/5" SB6-40'	SP	36.5/40 – 41.5/45' MIXED SAND (SP): 95% FINE–COARSE, POORLY GRADED SAND; 5% FINE, SEMI–ANGULAR TO SEMI–ROUNDED GRAVEL; BROWN TO DARK OLIVE GREY, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	44				
	46	275	28 50/4"	SP	41.5/45 – 46.5/50' MIXED SAND (SP): 100% FINE–MEDIUM, POORLY GRADED SAND; LIGHT OLIVE GREY, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	48				
	50	24.1	13 33 50/6"	CL	46.5/50 – 51.5/55' SANDY CLAY (CL): <5% FINE, POORLY–GRADED SAND; 95% FINES; MEDIUM–HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW–MEDIUM PLASTICITY, LIGHT OLIVE GREY TO REDDISH–BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY–MOIST, WEAK CEMENTATION, HOMOGENOUS
	52		SB6-50'		
	54				
	56	56.1	5 50/6" SB6-55'	SP	51.5/55 – 56.5' GRAVELLY SAND (SP): 95% FINE, POORLY GRADED SAND; 5% FINE, SEMI–ROUNDED GRAVEL; BROWN TO GREY, NO–SLIGHT PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				
	82				

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite 201, Modesto, California, 95351

LOG OF BORING SB7

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/28/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG PAGE 1 OF 2

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG		DESCRIPTION
						LAWN
	2					NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4					
	6	0.0	18 50/5"	CL	0.5/5' – 6.5/10'	SILTY CLAY (CL): <5% FINE, POORLY GRADED SAND; >95% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, BROWN TO YELLOWISH-RED, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	8					
	10	0.0	43 50/2"	CL	6.5/10 – 11.5/15'	SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	12					
	14					
	16	0.0	23 50/3"	CL	11.5/15 – 16.5/20'	SILTY CLAY (CL): <5% FINE, POORLY-GRADED SAND; >95% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18					
	20	0.0	31 50/5"	CL	16.5/20 – 21.5/25'	BROWN TO REDDISH BROWN
	22					
	24					
	26	0.0	45 50/6" SB7-25	ML	21.5/25 – 26.5/30'	SANDY SILT (ML): 10% FINE, POORLY GRADED SAND; 90% FINES; LOW DRY STRENGTH, NO-SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN TO GREYISH BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28					
	30	3740	22 33 50/3"	SP	26.5/30 – 31.5/35'	MIXED SAND (SP): 90% FINE-COARSE, POORLY GRADED SAND; 10% FINE GRAVEL; GREYISH BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB7-30			
	34					
	36	3691	23 40 50/4"	SP	31.5/35-36.5/40'	FINE SAND (SP): 90% FINE, POORLY GRADED SAND; 10% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	38					
	40			SP		

GEOTRACKER ID#:T0604700110

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1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF BORING SB7

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG		DESCRIPTION
	42	4083	40 50/5" SB7-40'	SP	36.5/40 – 41.5/45'	MIXED SAND (SP): 90% FINE–COARSE, POORLY GRADED SAND; 10% FINE, SEMI–ANGULAR TO SEMI–ROUNDED GRAVEL; BROWN TO DARK BROWN, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	44					
	46	354	25 32 50/5"	SP	41.5/45 – 46.5/50'	MIXED SAND (SP): 95% FINE–MEDIUM, POORLY GRADED SAND; 5% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, LIGHT OLIVE GREY, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	48					
	50	90.6	13 35 50/5"	CL	46.5/50 – 51.5/55'	SANDY CLAY (CL): 20% FINE, POORLY–GRADED SAND; 80% FINES; LOW DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW–MEDIUM PLASTICITY, LIGHT OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, DRY–MOIST, WEAK CEMENTATION, HOMOGENOUS
	52		SB7-50'			
	54					
	56	105	50/6"	SP	51.5/55 – 56.5'	GRAVELLY SAND (SP): 95% FINE–COARSE, POORLY GRADED SAND; 5% FINE, SEMI–ROUNDED GRAVEL; GREYISH BROWN, NO–SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	58					
	60					
	62					
	64					
	66					
	68					
	70					
	72					
	74					
	76					
	78					
	80					
	82					

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
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LOG OF BORING SB8

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/28/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG PAGE 1 OF 2

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
	0				LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.1	15 33 50/5"	CL	0.5/5' – 6.5/10' SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.3	26 50/6"	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): 5% FINE, POORLY-GRADED SAND; 95% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, BROWN TO GREYISH BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.0	26 39 50/6"	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWN TO GREYISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	0.0	15 50/5"	CL	16.5/20 – 21.5/25' SILTY CLAY (CL): 20% FINE, POORLY-GRADED SAND; 80% FINES; LOW-MEDIUM DRY STRENGTH, NO-SLOW DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	22				
	24				
	26	0.1	30 50/6" SB8-25	ML	21.5/25' – 26.5/30' SAND-SILT MIXTURE (SM-ML): 50% FINE, POORLY GRADED SAND; 50% FINES; MEDIUM DRY STRENGTH, SLOW DILATANCY, MEDIUM TOUGHNESS, NO PLASTICITY, REDDISH BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	648	25 50/5" SB8-30	SP	26.5/30' – 31.5/35' MIXED SAND (SP): 80% FINE-COARSE, POORLY GRADED SAND; 15% FINE GRAVEL; 5% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32				
	34				
	36	3261	22 38 50/4"	SP	31.5/35-36.5/40' FINE SAND (SP): >95% FINE, POORLY GRADED SAND; <5% FINE, SEMI-ROUNDED GRAVEL; YELLOWISH-RED, SLIGHT TO MODERATE PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS
	38				
	40			SP	

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB8

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG	DESCRIPTION
	42	4083	27 50/5" SB8-40'	SP	36.5/40 – 41.5/45' MIXED SAND (SP): 95% FINE–MEDIUM, POORLY GRADED SAND; 5% FINE–COARSE, SEMI–ROUNDED GRAVEL; BROWN, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	44				
	46	3103	24 36 50/5" SB8-45'	SP	41.5/45 – 46.5/50' FINE SAND (SP): 95% FINE, POORLY GRADED SAND; 5% FINES; NO DRY STRENGTH, RAPID DILATANCY, LOW TOUGHNESS, NO PLASTICITY, LIGHT OLIVE GREY, MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	48				
	50	26.4	7 26 50/6"	CL	46.5/50 – 51.5/55' SANDY CLAY (CL): 5% FINE, POORLY–GRADED SAND; 95% FINES; HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, MEDIUM PLASTICITY, LIGHT GREYISH BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	52				
	54				
	56	2.7	29 50/6" SB8-55'	CL	51.5/55 – 56.5' CLAY (CL): 100% FINES; HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW–MEDIUM PLASTICITY, LIGHT BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				
	82				

ATC ASSOCIATES INC.
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LOG OF BORING SB9

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/28/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.5	8 43 50/5"	CL	0.5/5' – 6.5/10' SILTY CLAY (CL): 100% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.5	9 17 25	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): 5% FINE, POORLY-GRADED SAND; 95% FINES; LOW DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.6	14 39 45	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 5% FINE-MEDIUM, POORLY-GRADED SAND; 95% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, LOW-MEDIUM PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	0.2	15 50/5"	ML	16.5/20 – 21.5/25' CLAYEY SILT (ML): 20% FINE, POORLY-GRADED SAND; 80% FINES; LOW-MEDIUM DRY STRENGTH, NO-SLOW DILATANCY, MEDIUM TOUGHNESS, NO PLASTICITY, BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	22				
	24				
	26	0.3	34 50/5"	SM	21.5/25' – 26.5/30' SILTY SAND (SM): 70% FINE-MEDIUM, POORLY GRADED SAND; 5% FINE, SEMI-ANGULAR GRAVEL; 25% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN TO GREYISH BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	0.6	15 22 50/2"	SP	26.5/30' – 31.5/35' MIXED SAND (SP): 85% FINE-COARSE, POORLY GRADED SAND; 15% FINE, SEMI-ANGULAR GRAVEL; BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB9-30		
	34				
	36	274	24 50/5"	ML	31.5/35-36.5/40' SANDY SILT (ML): 30% FINE, POORLY GRADED SAND; 70% FINES; NO-LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, GREYISH BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, DRY TO MOIST, WEAK CEMENTATION, HOMOGENOUS
	38		SB9-35		
	40			SP	

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB9

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG	DESCRIPTION
		37.4	28 50/6"	SP	36.5/40 – 41.5/45' FINE SAND (SP): 100% FINE, POORLY GRADED SAND; LIGHT OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	42				
	44				
		171	28 50/6"	SP	41.5/45 – 46.5/50' MIXED SAND (SP): 80% FINE–COARSE, POORLY GRADED SAND; 20% FINE, SEMI–ROUNDED TO SEMI–ANGULAR GRAVEL; OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	46				
			SB9–45'		
	48				
	50		28	SP	46.5/50 – 51.5/55' MIXED SAND (SP): 95% FINE–MEDIUM, POORLY–GRADED SAND; 5% FINE, SEMI–ROUNDED TO ROUNDED GRAVEL; OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST–WET, WEAK CEMENTATION, HOMOGENOUS
		10.2	31 50/3"		
	52				
	54				51.5/55 – 56' CLAYEY SAND (SC): 70% FINE, POORLY–GRADED SAND; 30% FINES; MEDIUM DRY STRENGTH, SLOW–RAPID DILATANCY, MEDIUM TOUGHNESS, MEDIUM PLASTICITY, GREY TO BROWNISH GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, WET, WEAK CEMENTATION, HOMOGENOUS.
		7.8	50/6"	SC	
	56		SB9–55'	SP	56 – 56.5' FINE SAND (SP): 100% FINE, POORLY–GRADED SAND; LIGHT BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				
	82				

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB10

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/29/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.0	7 35 50/4"	CL	0.5/5' – 6.5/10' SILTY CLAY (CL): 100% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW-MEDIUM TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.0	13 36 50/5"	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.0	25 31 50/6"	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST-WET, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	0.0	20 50/5"	SM	16.5/20 – 21.5/25' CLAYEY SANDY SILT (SM): 20% FINE, POORLY-GRADED SAND; 20% FINE, SEMI-ROUNDED TO SEMI-ANGULAR GRAVEL; 60% FINES; NO DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, NO PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	22				
	24				
	26	0.0	29 50/5"	ML	21.5/25' – 26.5/30' CLAYEY SILT (ML): 100% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN TO BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	0.3	26 35 50/5"	SP	26.5/30' – 31.5/35' MIXED SAND (SP): 90% FINE-MEDIUM, POORLY GRADED SAND; 15% FINE, ROUNDED GRAVEL; BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB10-30		
	34				
	36	0.7	14 36 47	SP	31.5/35 – 36.5/40' FINE SAND (SP): 100% FINE, POORLY GRADED SAND; REDDISH BROWN TO GREYISH BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	38		SB10-35		
	40			SP	

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB10

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG	DESCRIPTION
	42	324	31 50/3" SB10-40'	SP	36.5/40 – 41.5/45' GRAVELLY SAND (SP): 95% FINE, POORLY GRADED SAND; 5% FINE ROUNDED GRAVEL; LIGHT OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	44				
	46	38.8	18 50/6"	SP	41.5/45 – 46.5/50' MIXED SAND (SP): 100% FINE–MEDIUM, POORLY GRADED SAND; LIGHT OLIVE GREY TO OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	48				
	50	495	21 32 50/4" SB10-50'	SP	46.5/50 – 51.5/55' GRAVELLY SAND (SP): 80% FINE–COARSE, POORLY–GRADED SAND; 20% FINE, SEMI–ROUNDED GRAVEL; OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	52				
	54			SP	51.5/55 – 55.5' FINE SAND (SP): 100% FINE, POORLY–GRADED SAND; OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, WET, WEAK CEMENTATION, HOMOGENOUS.
	56	43.6 18.1	20 50/6" SB10-55'	CL	55.5 – 56.5' SANDY CLAY (CL): 20% FINE, POORLY–GRADED SAND; 80% FINES; LOW DRY STRENGTH, SLOW TO RAPID DILATANCY, LOW TOUGHNESS, LOW–MEDIUM PLASTICITY, OLIVE GREY TO BROWN, NO–SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				
	82				

GEOTRACKER ID#:T0604700110

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LOG OF BORING SB11

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/29/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.8	12 42 50/2"	CL	0.5/5' – 6.5/10' SILTY CLAY (CL): <5% FINE, POORLY-GRADED SAND; >95% FINES; MEDIUM-HIGH DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	1.0	32 50/4"	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): <5% FINE, POORLY-GRADED SAND; >95% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, NO PLASTICITY, YELLOWISH-RED TO BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS.
	12				
	14				
	16	0.2	15 23 25	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 10% FINE, POORLY-GRADED SAND; 90% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN TO YELLOWISH RED, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	0.2	16 36 50/5"	CL	16.5/20 – 21.5/25' SILTY CLAY (CL): 100% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW-MEDIUM TOUGHNESS, NO-LOW PLASTICITY, BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	22				
	24				
	26	0.4	31 50/5"	CL	21.5/25' – 26.5/30' SILTY CLAY (CL): 5% FINE, POORLY-GRADED SAND; 95% FINES; MEDIUM DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, BROWN TO YELLOWISH-RED, NO PRODUCT ODOR, NO ORGANICS, DRY, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	0.5	24 50/6"	SM	26.5/30' – 31.5/35' SILTY SAND (SM): 85% FINE, POORLY-GRADED SAND; 15% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN TO YELLOWISH-RED, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB11-30		
	34				
	36	0.3	36 40 50/4"	SP	31.5/35 – 36.5/40' GRAVELLY SAND (SP): 95% FINE, POORLY-GRADED SAND; 5% FINE, SEMI-ROUNDED TO ROUNDED GRAVEL; REDDISH BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	38		SB11-35		
	40			SP	

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF BORING SB11

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG		DESCRIPTION
	42	104	36 50/5" SB11-40'	SP	36.5/40 – 41.5/45'	MIXED SAND (SP): 95% FINE–MEDIUM, POORLY–GRADED SAND; 5% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, LIGHT OLIVE GREY, SLIGHT–MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	46	293	19 38 42 SB11-45'	SP	41.5/45 – 46.5/50'	MIXED SAND (SP): 100% FINE–MEDIUM, POORLY–GRADED SAND; OLIVE GREY, SLIGHT–MODERATE PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	50	20.4	13 34 50/3"	SM–ML	46.5/50 – 51.5/55'	SAND–SILT MIX (SM–ML): 50% FINE, POORLY–GRADED SAND; 50% FINES; MEDIUM DRY STRENGTH, SLOW DILATANCY, MEDIUM TOUGHNESS, NO PLASTICITY, GREY TO BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	54			SP	51.5/55 – 55.5'	FINE SAND (SP): 100% FINE, POORLY–GRADED SAND; GREYISH BROWN TO BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	56	25.2	16 50/6" SB11-55'	SP	55.5 – 56.5'	GRAVELLY SAND (SP): 85% FINE–COARSE, POORLY–GRADED SAND; 15% FINE–COARSE, SEMI–ANGULAR TO SEMI–ROUND GRAVEL; BROWN, NO–SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	58					
	60					
	62					
	64					
	66					
	68					
	70					
	72					
	74					
	76					
	78					
	80					
	82					

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite 201, Modesto, California, 95351

LOG OF BORING SB12

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001
DATE DRILLED 10/30/2009 LOGGED BY JIM KUNDERT REVIEWED BY JEANNE HOMSEY C47410
DRILLING COMPANY CASCADE DRILLING DRILLER J. ADMIRE METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 8 IN DEPTH DRILLED 55 FT DEPTH TO WATER : INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT THROUGH TREMIE PIPE INTERVAL 0 FT TO 55 FT
COMMENTS: BORING WAS ADVANCED WITH A LIMITED ACCESS HOLLOW-STEM DRILL RIG

WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	LITHOLOGIC LOG	DESCRIPTION
					LAWN
	2				NO SAMPLES COLLECTED FROM SURFACE TO 5 FEET BGS; HAND-AUGERED
	4				
	6	0.0	15 50/4"	CL	0.5/5' – 6.5/10' SILTY CLAY (CL): <5% FINE, POORLY-GRADE SAND; >95% FINES; MEDIUM DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, BROWN TO REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS.
	8				
	10	0.0	20 50/4"	CL	6.5/10' – 11.5/15' SILTY CLAY (CL): <5% FINE, POORLY-GRADE SAND; >95% FINES; LOW-MEDIUM DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, CALCITE INCLUSIONS.
	12				
	14				
	16	0.0	28 50/3"	CL	11.5/15' – 16.5/20' SILTY CLAY (CL): 100% FINES; LOW-MEDIUM DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, REDDISH-BROWN TO GREYISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS.
	18				
	20	0.0	50/6"	ML	16.5/20 – 21' SANDY SILT (ML): 40% FINE, POORLY-GRADED SAND; 60% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	22			SM	21 – 21.5/25' SILTY SAND (SM): 60% FINE, POORLY-GRADED SAND; 40% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO-LOW PLASTICITY, REDDISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	24				
	26	0.0	38 50/5"	CL	21.5/25' – 26.5/30' SANDY CLAY (CL): 10% FINE, POORLY-GRADED SAND; 90% FINES; LOW-MEDIUM DRY STRENGTH, NO DILATANCY, MEDIUM TOUGHNESS, LOW PLASTICITY, GREYISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	28				
	30	0.0	18 39 50/4"	SM	26.5/30' – 31.5/35' SILTY SAND (SM): 70% FINE, POORLY-GRADED SAND; 30% FINES; LOW DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, YELLOWISH-BROWN, NO PRODUCT ODOR, NO ORGANICS, DRY-MOIST, WEAK CEMENTATION, HOMOGENOUS
	32		SB12-30		
	34				
	36	0.0	21 43 50/4"	SP	31.5/35 – 36.5/40' MIXED SAND (SP): 95% FINE-COARSE, POORLY-GRADED SAND; 5% FINES; NO DRY STRENGTH, SLOW DILATANCY, LOW TOUGHNESS, NO PLASTICITY, BROWN, NO PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
	38		SB12-35		
	40			SP	

GEOTRACKER ID#:T0604700110

ATC ASSOCIATES INC.
1117 Lone Palm Ave., Suite B, Modesto, California, 95351

LOG OF BORING SB12

PROJECT HUGHES PROPERTY LOCATION 1620 ROSE AVENUE, MERCED, CALIFORNIA PROJECT NO. 54.25492.0001

COMMENTS:

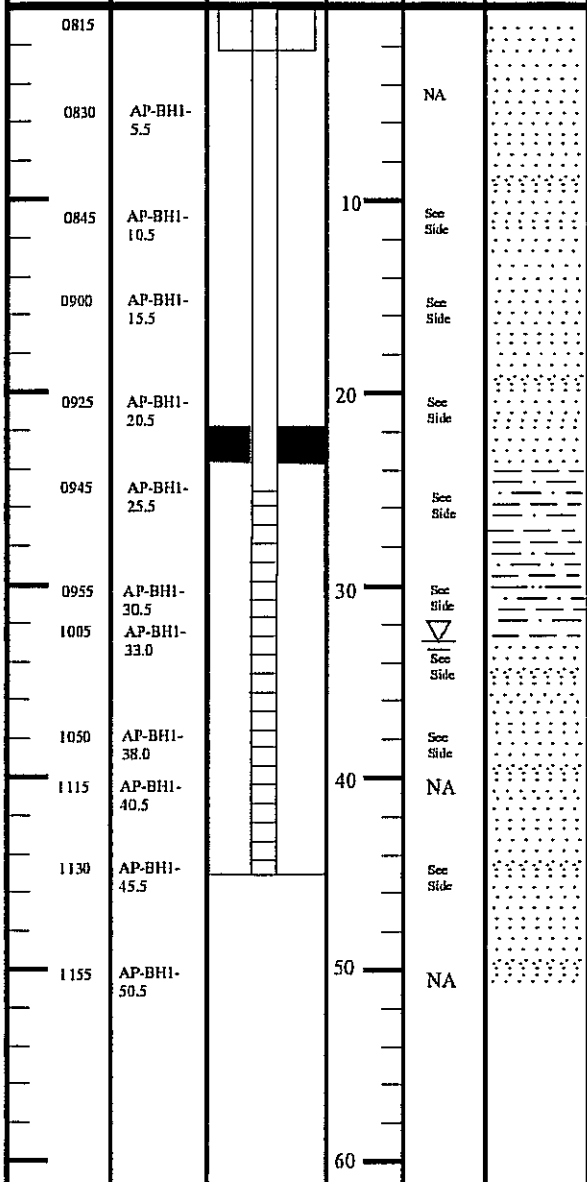
WELL DETAIL	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.C. LOG		DESCRIPTION
		45.5	50/6"	SP	36.5/40 – 41'	MIXED SAND (SP): 100% FINE–COARSE, POORLY GRADED SAND; LIGHT BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
			SB12–40'	CL	41 – 41.5/45'	SANDY CLAY (CL): <10% FINE, POORLY GRADED SAND; >90% FINES; LOW DRY STRENGTH, NO DILATANCY, LOW TOUGHNESS, LOW PLASTICITY, LIGHT OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	42					
	44					
		342	22	SP	41.5/45 – 46.5/50'	FINE SAND (SP): 100% FINE, POORLY GRADED SAND; OLIVE GREY, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	46		50/6"			
			SB12–45'			
	48					
	50		25	SP	46.5/50 – 51.5/55'	MIXED SAND (SP): 95% FINE–COARSE, POORLY–GRADED SAND; 5% FINE, SEMI–ANGULAR GRAVEL; GREY TO BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS
		238	50/6"			
	52		SB12–50'			
	54					
		192	14	CL	51.5/55 – 56.5'	CLAY (CL): 100% FINES; MEDIUM DRY STRENGTH, SLOW DILATENCY, MEDIUM TOUGHNESS, MEDIUM PLASTICITY, REDDISH–BROWN, SLIGHT PRODUCT ODOR, NO ORGANICS, MOIST, WEAK CEMENTATION, HOMOGENOUS.
	56	1.7	50/6"			
			SB12–55'		56 – 56.5'	LIGHT BROWN, NO PRODUCT ODOR
	58					
	60					
	62					
	64					
	66					
	68					
	70					
	72					
	74					
	76					
	78					
	80					
	82					

GEOTRACKER ID#:T0604700110

SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	06/14/2006-0815 Finish Date/Time 06/14/2006-1245
Drilled By	Earthtec Ltd	Logged By	SGM Reviewed By
Drilling Method	10" diameter continuous hollow stem	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger Bit Size 10"	Field Monitor	PID - Mini-Rae 2000 #4132
Sampling	18x2" California modified split spoon	Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	06/14/2006		
Depth of Hole (ft)	50.5'		



Soil Description

FINE SILTY SAND (Artificial Fill): Dark green, moist, very strong petroleum hydrocarbon odor (350 ppmv) on PID. Lead (8.69 mg/kg).

MEDIUM TO FINE SILTY SAND: Dark green to black, moist, micaceous, very strong petroleum hydrocarbon odor (9,000 ppmv on PID; analytical results: benzene (ND); toluene (3.7 mg/kg); ethylbenzene (10 mg/kg); xylene (59 mg/kg); TPH-g(880 mg/kg); lead (11 mg/kg); all others ND.

MEDIUM TO FINE SILTY SAND: Dark green to black, moist, micaceous, very strong petroleum hydrocarbon odor (5,500 ppmv on PID; analytical results: benzene (0.29 mg/kg); toluene (8.9 mg/kg); ethylbenzene (30 mg/kg); xylene (46 mg/kg); TPH-g(1800 mg/kg); lead (3.89 mg/kg); all others ND. Blow count to cut sample: 8/9/11.

MEDIUM TO FINE SILTY SAND: Dark green, moist, micaceous, very strong petroleum hydrocarbon odor (5,500 ppmv on PID; analytical results: benzene (0.097 mg/kg); toluene (2.9 mg/kg); ethylbenzene (12 mg/kg); xylene (45 mg/kg); TPH-g(700 mg/kg); all others ND. Lead (5.56 mg/kg); Blow count to cut sample: 8/10/13.

CLAYEY SILT: Dark green to brown, moist, micaceous, moderate petroleum hydrocarbon odor (5,500 ppmv on PID; analytical results: benzene (0.052 mg/kg); toluene (0.52 mg/kg); ethylbenzene (0.17 mg/kg); xylene (0.90 mg/kg); TPH-g(4.3 mg/kg); lead (4.86 mg/kg); all others ND. Blow count to cut sample: 9/11/12.

CLAYEY SILT: As above, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; analytical results: benzene (ND); toluene (ND); ethylbenzene (0.0073 mg/kg); xylene (0.11 mg/kg); TPH-g(ND); lead (3.86 mg/kg); all others ND. Blow count to cut sample: 10/12/14.

Water table at 33.0 feet bgs

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Analytical results all ND except toluene (0.0058 mg/kg) and xylene (0.075 mg/kgk); Lead (3.48 mg/kg) Blow count to cut sample: 8/9/12.

MEDIUM TO COARSE GRAINED SAND: As above; no petroleum odor (0 ppmv on PID). Analytical results all ND except for xylene (0.014 mg/kg).mg/kgk); Lead (2.74 mg/kg); Blow count to cut sample: 8/9/12.

MEDIUM TO COARSE GRAINED SAND: As above; no petroleum odor (0 ppmv on PID). Analytical results all ND except for xylene (0.0079 mg/kg).mg/kgk); Lead (4.43 mg/kg); Blow count to cut sample: 8/9/12.

Total Depth: 50.5' bgs.

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 25 feet below ground surface; bentonite chip seal from 22.0 to 24.0 feet below ground surface; screen set from 25.0 to 45.0 feet below ground level with 0.010 screen; concrete slurry cement grout from 22.0 to 0.5 feet bgs; Monterey #212 filter sand pack; locking cap on top of case with traffic box set in ground. End cap is set at base of screened pipe.

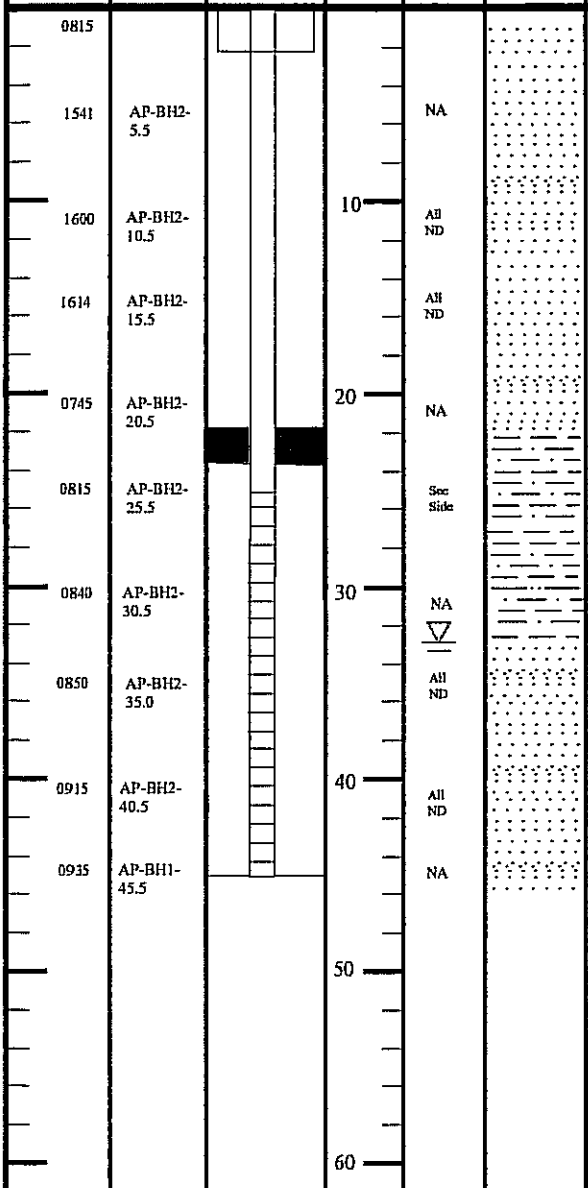
Well Casing Elevation is 169.70 feet above mean sea level
Coordinates of well are 2355642.04 feet north, 6136032.58 feet east, California State Plane Coordinate System Zone 4, NAD83.
Coordinates: Latitude 37.28900347 degrees North, Longitude -120.4631322 degrees West
Longitude and Latitude Horizontal coordinates tied to USC&GS Benchmark A85 (PID HS1152), WGS 1984 Spheroid, NAD83 Projection

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	06/14/2006-1530 Finish Date/Time 06/14/2006-0935
Drilled By	Earthtec Ltd	Logged By	SGM Reviewed By
Drilling Method	10" diameter continuous hollow stem	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger Bit Size 10"	Field Monitor	PID - Mini-Rae 2000 #4132
Sampling	18x2" California modified split spoon	Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	06/14/2006		
Depth of Hole (ft)	45.5'		



Soil Description

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample not analyzed. Blow count to cut sample 7/10/11.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample analytical results: All ND. Lead (21.4 mg/kg) Blow count to cut sample 7/12/13.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample analytical results: All ND. Blow count to cut sample 6/10/12.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample not analyzed. Blow count to cut sample 7/11/13.

CLAYEY SILT: Light brown, moist, micaceous, slight petroleum odor (15 ppmv on PID); analytical results: toluene (0.0067 mg/kg); ethylbenzene (0.014 mg/kg); xylene (0.08 mg/kg) lead (4.86 mg/kg);
all others ND. Blow count to cut sample: 9/11/12.

Water table at 33.0 feet bgs

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample analytical results: All ND. Blow count to cut sample: 9/13/14.

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample not analyzed. Blow count to cut sample: 10/11/15.

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample not analyzed. Blow count to cut sample: 11/12/14.

Total Depth: 45.5' bgs.

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 25 feet below ground surface; bentonite chip seal from 22.0 to 24.0 feet below ground surface; screen set from 25.0 to 45.0 feet below ground level with 0.010 screen; concrete slurry cement grout from 22.0 to 0.5 feet bgs; Monterey #212 filter sand pack; locking cap on top of case with traffic box set in ground. End cap is set at base of screened pipe.

Well Casing Elevation is 169.78 feet above mean sea level
Coordinates of well are 2355677.61 feet north, 6136016.13 feet east, California State Plane Coordinate System Zone 4, NAD83.
Coordinates: Latitude 37.28910047 degrees North, Longitude -120.4631906 degrees West
Longitude and Latitude Horizontal coordinates tied to USC&GS Benchmark A85 (PID HS1152), WGS 1984 Spheroid, NAD83 Projection

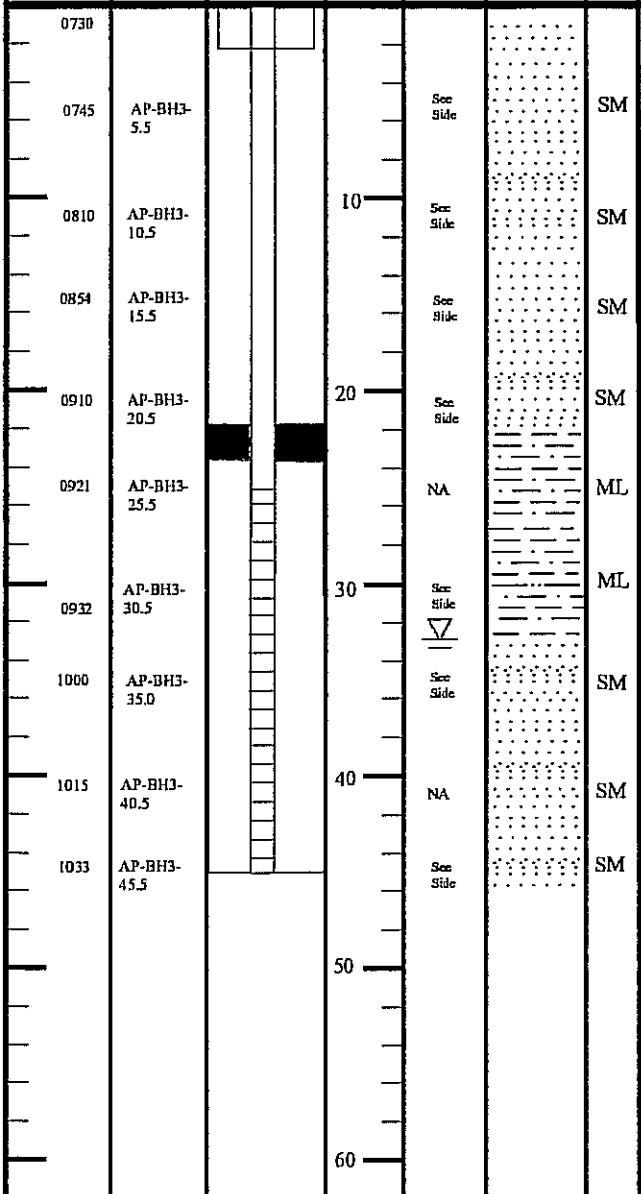
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GEOTRACKER ID#:T0604713690

SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	06/27/2006-0730 Finish Date/Time 06/27/2006-1130
Drilled By	Earthtec Ltd	Logged By	SGM Reviewed By
Drilling Method	10" diameter continuous hollow stem	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger Bit Size 10"	Field Monitor	PID - Mini-Rae 2000 #4132
Sampling	18x2" California modified split spoon	Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	06/27/2006		
Depth of Hole (ft)	45.5'		



Soil Description

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, moderate petroleum hydrocarbon odor (250 ppmv on PID; Soil sample analytical results: toluene (0.61 mg/kg); ethylbenzene (14 mg/kg); xylene (79 mg/kg); TPH-g (2400 mg/kg); TPH-d(790 mg/kg); TPH-mo (46 mg/kg); Blow count to cut sample 6/8/10.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, moderate petroleum hydrocarbon odor (50 ppmv on PID; Soil sample analytical results: toluene (0.017 mg/kg); ethylbenzene (0.37 mg/kg); xylene (1.2 mg/kg); TPH-g (17 mg/kg); TPH-d(140 mg/kg); TPH-mo (340 mg/kg); Blow count to cut sample 7/9/11.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID; Soil sample analytical results: xylene (0.0058 mg/kg); TPH-d (3.5 mg/kg); All others ND. Blow count to cut sample 9/10/12.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample analytical results: xylene (0.023 mg/kg); TPH-d (4.6 mg/kg); All others ND. Blow count to cut sample 10/11/14.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample not analyzed. Blow count to cut sample: 9/10/13.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample analytical results: All ND. Blow count to cut sample: 11/12/15.

Water table at 33.0 feet bgs

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample analytical results: All ND except TPH-d (1.2 mg/kg). Blow count to cut sample: 9/12/13.

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample not analyzed. Blow count to cut sample: 10/12/15.

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample analytical results all ND except TPH-d (6.4 mg/kgk) and TPH-mo (15 mg/kg). Blow count to cut sample: 11/12/14.

Total Depth: 45.5' bgs.

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 25 feet below ground surface; bentonite chip seal from 22.0 to 24.0 feet below ground surface; screen set from 25.0 to 45.0 feet below ground level with 0.010 screen; concrete slurry cement grout from 22.0 to 0.5 feet bgs; Monterey #212 filter sand pack; locking cap on top of case with traffic box set in ground. End cap is set at base of screened pipe.

Well Casing Elevation is 169.65 feet above mean sea level
Coordinates of well are 2355663.17 feet north, 6136046.80 feet east, California State Plane Coordinate System Zone 4, NAD83.
Coordinates: Latitude 37.28906208 degrees North, Longitude -120.4630844 degrees West
Longitude and Latitude Horizontal coordinates tied to USC&GS Benchmark A85 (PID HS1152), WGS 1984 Spheroid, NAD83 Projection

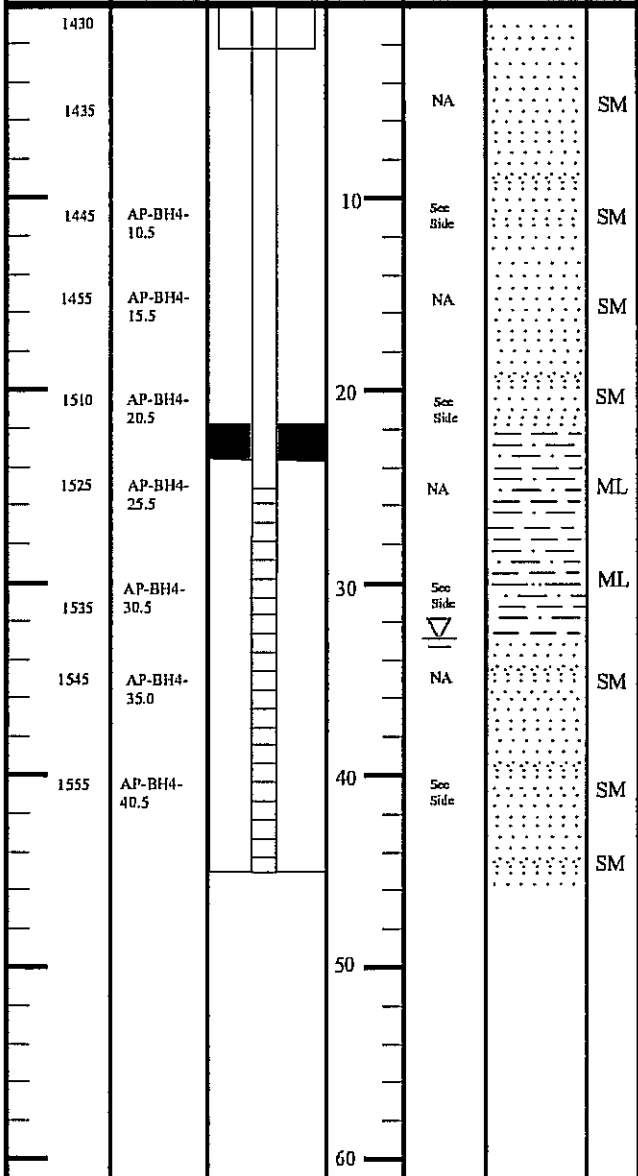
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GEOTRACKER ID#:T0604713690

SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	06/27/2006-0730 Finish Date/Time 06/27/2006-1130
Drilled By	Earthtec Ltd	Logged By	SGM Reviewed By
Drilling Method	10" diameter continuous hollow stem	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger Bit Size 10"	Field Monitor	PID - Mini-Rae 2000 #4132
Sampling	18x2" California modified split spoon	Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	06/27/2006		
Depth of Hole (ft)	45.5'		



Soil Description

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; No soil samples analyzed. Blow count to cut sample 6/8/9.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID); Soil sample analytical results: All ND except for TPH-d (16 mg/kg) and TPH-mo (30 mg/kg); Blow count to cut sample 7/10/12.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID); No soil samples analyzed. Blow count to cut sample 10/11/12.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample analytical results all ND except TPH-d (14 mg/kg) and TPH-mo(17 mg/kg); Blow count to cut sample 10/12/15.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample not analyzed. Blow count to cut sample: 11/12/14.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample analytical results all ND except TPH-d (9.7 mg/kg) and TPH-mo(14 mg/kg). Blow count to cut sample: 11/12/14.
Water table at 33.0 feet bgs

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample not analyzed. Blow count to cut sample 12/13/14.

MEDIUM TO COARSE GRAINED SAND: Light brown, wet, iron stained, micaceous, no petroleum odor (0 ppmv on PID). Soil sample analytical results all ND except for TPH-d (6.8 mg/kg). Blow count to cut sample: 10/14/16.

No sample recovered

Total Depth: 45.5' bgs.

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 25 feet below ground surface; bentonite chip seal from 22.0 to 24.0 feet below ground surface; screen set from 25.0 to 45.0 feet below ground level with 0.010 screen; concrete slurry cement grout from 22.0 to 0.5 feet bgs; Monterey #212 filter sand pack; locking cap on top of case with traffic box set in ground. End cap inset at base of screened pipe.

Well Casing Elevation is 169.73 feet above mean sea level
Coordinates of well are 2355604.56 feet north, 6136042.25 feet east, California State Plane Coordinate System Zone 4, NAD83.
Coordinates: Latitude 37.28890097 degrees North, Longitude -120.463969 degrees West
Longitude and Latitude Horizontal coordinates tied to USC&GS Benchmark A85 (PID HS1152), WGS 1984 Spheroid, NAD83 Projection

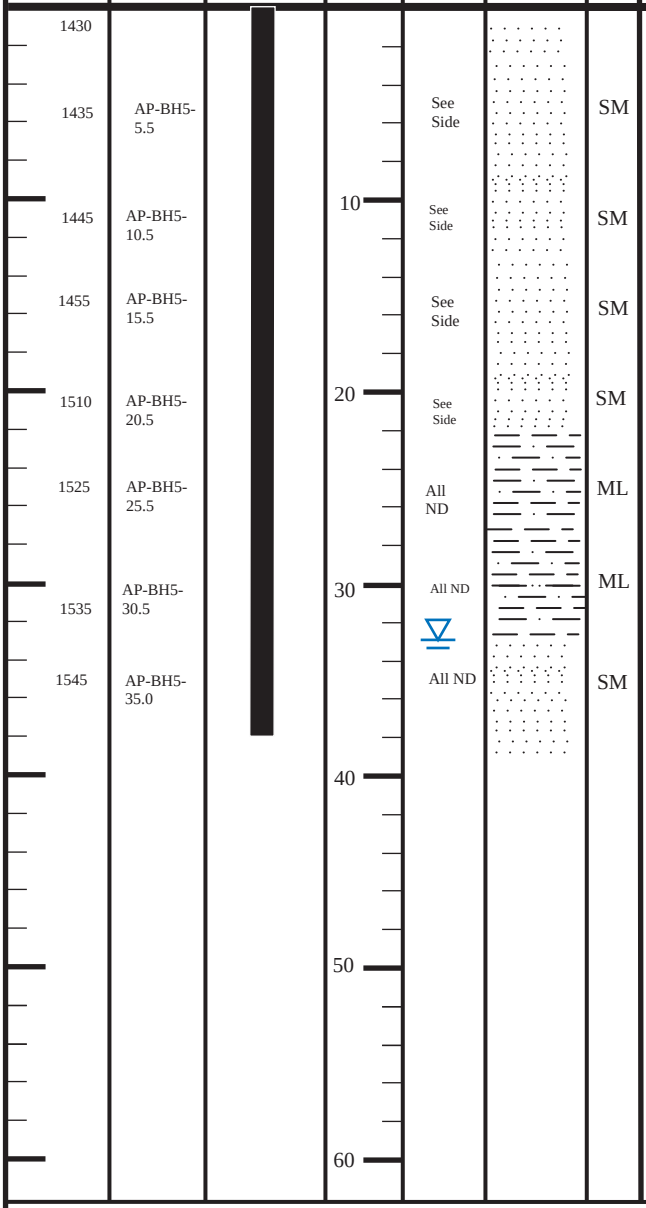
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GEOTRACKER ID#:T0604713690

SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	08/11/2006-0940
Drilled By	Woodward Drilling Inc.	Finish Date/Time	08/11/2006-1159
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push	Reviewed By	
Bit Size	1"	Weather/Temp(°F)	Clear / Hot
Sampling	Continuous (48") plastic tubes	Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	08/11/2006		
Depth of Hole (ft)	38.0'		



Soil Description

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (10 ppmv on PID; Analytical results: benzene (0.44 mg/kg); toluene (0.034 mg/kg); ethylbenzene (0.014 mg/kg); xylene (0.078 mg/kgk); TPH-g (ND); TPH-d (3.8 mg/kg).

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (15 ppmv on PID); Analytical results: benzene (0.46 mg/kg); toluene (1.5 mg/kg); ethylbenzene (3.4 mg/kg); xylene (18 mg/kgk); TPH-g (250 mg/kg); TPH-d (760 mg/kg); TPH-mo (240 mg/kg).

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID); Analytical results: benzene (0.0083 mg/kg); toluene (0.017 mg/kg); ethylbenzene (0.13 mg/kg); xylene (0.63 mg/kgk); TPH-g (13 mg/kg); TPH-d (240 mg/kg).

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Analytical results: benzene (0.006 mg/kg); ethylbenzene (0.013 mg/kg); xylene (0.056 mg/kg); TPH-d (1.1 mg/kg).

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); All analytical results are ND.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample analytical results all ND.

Water table at 33.0 feet bgs

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID). Soil sample analytical results all ND.

Total Depth: 45.5' bgs.

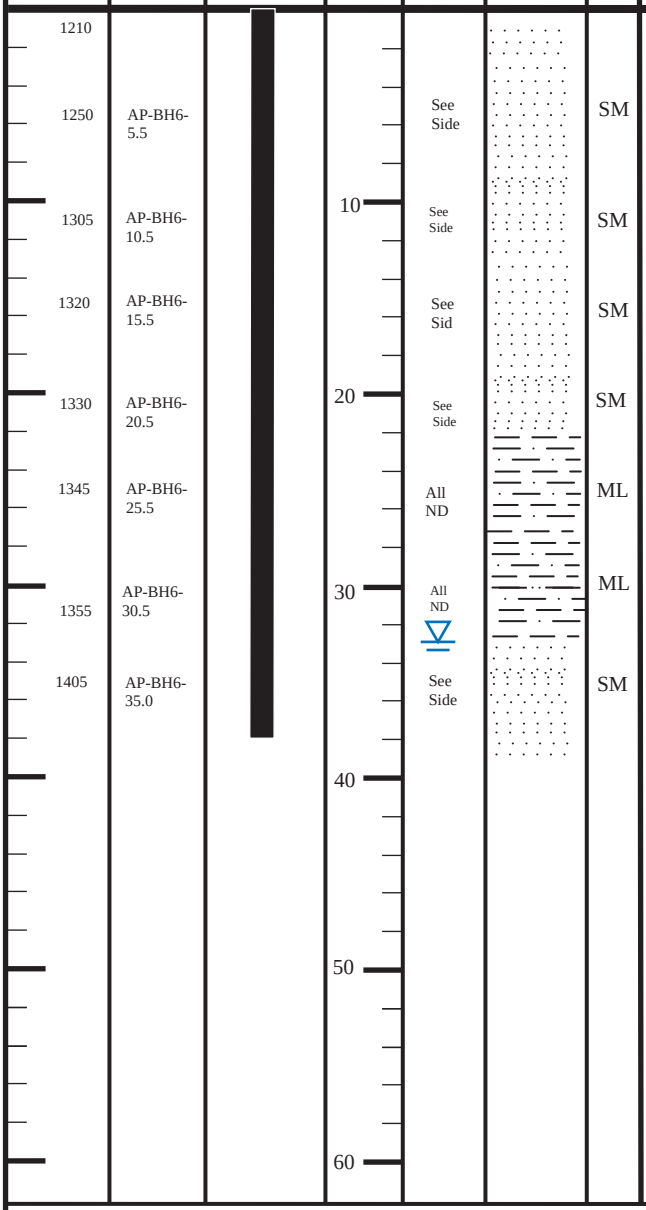
BORE HOLE COMPLETION NOTES: Bore hole sampled to total depth with continuous core. Soil hole backfilled with neat cement grout as per MCDPH permit requirements using a tremie pipe from bottom of hole to ground surfce.

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	08/11/2006-1210 Finish Date/Time 08/11/2006-1450
Drilled By	Woodward Drilling Inc.	Logged By	SGM Reviewed By
Drilling Method	AGS 9030 Geoprobe (continuous core)	Weather/Temp(°F)	Clear / Hot
Bit Type	Push Bit Size 1"	Field Monitor	PID - Mini-Rae 2000 #4132
Sampling	Continuous (48") plastic tubes	Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information			
Depth to Groundwater (ft)	33.0'		
Date - Time	08/11/2006		
Depth of Hole (ft)	38.0'		



Soil Description

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID; Soil sample analytical results: benzene (0.15 mg/kg); toluene (0.28 mg/kg); ethylbenzene (0.19 mg/kg); xylene (1.1 mg/kg); TPH-g (20 mg/kg); TPH-d (46 mg/kg).

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID); Soil sample analytical results: All ND except for TPH-d (1.2 mg/kg).

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID); No soil samples analyzed. Blow count to cut sample 10/11/12.

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID; Soil sample analytical results all ND except TPH-d (14 mg/kg).

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample analytical results all ND.

CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID); Soil sample analytical results all ND.

Water table at 33.0 feet bgs

MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID); Soil sample analytical results all ND except TPH-d (2.5 mg/kg).

Total Depth: 38.0' bgs.

BORE HOLE COMPLETION NOTES: Bore hole sampled to total depth with continuous core. Soil hole backfilled with neat cement grout as per MCDPH permit requirements using a tremie pipe from bottom of hole to ground surfce.

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push Bit Size 1"	Reviewed By	
Sampling	Continuous (48") plastic tubes	Weather/Temp(°F)	Clear / Cool
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Depth (ft)	Laboratory Analysis	Soil Group Symbol (USCS)	Soil Description
0825	AP-BH7-4.0-5.5		NA	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID.
0845	AP-BH7-9.5-11.0	10	See Side	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID); Soil sample analytical results: benzene (0.34 mg/kg; TPH-g (1100 mg/kg). Total lead (245 mg/kg).
0905	AP-BH7-13.5-15.0		NA	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID).
0920	AP-BH7-17.5-19.0	20	See Side	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (10 ppmv on PID; Soil sample analytical results all ND except TPH-g (130 mg/kg). Total lead (2.89 mg/kg).
0925	AP-BH7-23.0				
0936	AP-BH7-26.0		NA	ML	CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID).
		30			Total Depth: 26.0' bgs.
		40			
		50			
		60			

BORE HOLE COMPLETION NOTES: Bore hole sampled to total depth with continuous core. Soil hole backfilled with neat cement grout as per MCDPH permit requirements using a tremie pipe from bottom of hole to ground surfce.

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push	Bit Size	1"
Sampling	Continuous (48") plastic tubes	Reviewed By	
		Weather/Temp(°F)	Clear / Cool
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Soil Boring Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1000	AP-BH8-4.0-5.5		10	NA		SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID.
1005	AP-BH8-13.0-14.0			See Side		SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID); Soil sample analytical results: All ND. Total lead (3.64 mg/kg).
			20			SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID).
1015	AP-BH8-22.0-23.0			See Side		ML	CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID). Soil sample analytical results: All ND. Total lead (6.31 mg/kg).
			30				Total Depth: 23.0' bgs.
			40				
			50				
			60				

BORE HOLE COMPLETION NOTES: Bore hole sampled to total depth with continuous core. Soil hole backfilled with neat cement grout as per MCDPH permit requirements using a tremie pipe from bottom of hole to ground surfce.

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push	Bit Size	1"
Sampling	Continuous (48") plastic tubes	Reviewed By	
		Weather/Temp(°F)	Clear / Cool
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Soil Boring Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1400			10, 20, 30, 40, 50, 60			SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID. Boring halted when concrete footing hit at 3.5' bgs. Total Depth: 3.5' bgs.

BORE HOLE COMPLETION NOTES: Bore hole sampled to total depth with continuous core. Soil hole backfilled with neat cement grout as per MCDPH permit requirements using a tremie pipe from bottom of hole to ground surfce.

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push Bit Size 1"	Reviewed By	
Sampling	Continuous (48") plastic tubes	Weather/Temp(°F)	Clear / Hot
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Depth (ft)	Laboratory Analysis	Soil Group Symbol (USCS)	Soil Description
1305					
1315	AP-BH10-4.0-5.0		See Side	SM	FINE SILTY SAND (Artificial Fill): Dark green, moist, moderate petroleum hydrocarbon odor (50 ppmv) on PID. Analytical results: benzene (0.44 mg/kg); TPH-g (430), all others ND. Total lead (5.27 mg/kg).
		10			
1320	AP-BH10-11.0-12.0		See Side	SM	MEDIUM TO FINE SILTY SAND: Dark green to black, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID). Analytical results: all ND. Total lead (3.58 mg/kg)
1325	AP-BH10-14.0-15.0		NA		MEDIUM TO FINE SILTY SAND: Dark green to black, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID).
1330	AP-BH10-18.0-19.0		See Side		MEDIUM TO FINE SILTY SAND: Dark green to black, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID). Analytical results: benzene (0.02 mg/kg); TPH-g (1.7 mg/kg). Total lead (4.41 mg/kg).
		20		SM	MEDIUM TO FINE SILTY SAND: Dark green, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID).
1345	AP-BH10-25.0-26.0		See Side	ML	CLAYEY SILT: Dark green to brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID). Analytical results: All ND. Total lead (7.11 mg/kg).
		30			Total Depth: 26' bgs.
		40			
		50			
		60			

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push	Bit Size	1"
Sampling	Continuous (48") plastic tubes	Reviewed By	
		Weather/Temp(°F)	Clear / Hot
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Depth (ft)	Laboratory Analysis	Soil Group Symbol (USCS)	Soil Description
1030					
1035	AP-BH11-3.0-4.0		See Side	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID. Analytical results: benzene (0.01 mg/kg); TPH-g (1.8 mg/kg). Total lead (6.01 mg/kg).
1040	AP-BH11-7.0-8.0	10	NA	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (5 ppmv on PID).
1055	AP-BH11-14.0-15.0		NA	SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, slight petroleum hydrocarbon odor (<5 ppmv on PID).
1105	AP-BH11-19.5-20.0	20	NA		
1115	AP-BH11-22.5-23.5		See Side	ML	CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID). Analytical results: All ND. Total lead (4.25 mg/kg).
		30			Total Depth: 23.5' bgs.
		40			
		50			
		60			

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SOIL BORING REPORT

Project	Anderson-Polzine	Project Number	
Location	1375 Brantley Street, Merced	Start Date/Time	02/06/2007
Drilled By	V&W Drilling Inc.	Finish Date/Time	02/06/2007
Drilling Method	AGS 9030 Geoprobe (continuous core)	Logged By	SGM
Bit Type	Push	Bit Size	1"
Sampling	Continuous (48") plastic tubes	Reviewed By	
		Weather/Temp(°F)	Clear / Hot
		Field Monitor	PID - Mini-Rae 2000 #4132
		Surface Conditions	Dirt/Asphalt/Rock
		Ground Elevation	(Mean Sea Level) 169.0'

Water Level Information

Depth to Groundwater (ft)			
Date - Time			
Depth of Hole (ft)			

Time	Sampled Depth Interval and Number	Soil Boring Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1140	AP-BH12-4.0-5.0		10	NA		SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID.
1150	AP-BH12-7.0-8.0			See Side		SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID). Analytical results: All ND. Total lead (4.45 mg/kg).
1200	AP-BH12-13.0-14.0			See Side		SM	MEDIUM TO FINE SILTY SAND: Light brown, moist, micaceous, no petroleum hydrocarbon odor (0 ppmv on PID). Analytical results: All ND.
1215	AP-BH12-20.0-21.0		20	NA		ML	CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID).
1230	AP-BH12-23.0-24.0			See Side		ML	CLAYEY SILT: Light brown, moist, micaceous, no petroleum odor (0 ppmv on PID). Analytical results: All ND. Total lead (5.52 mg/kg).
			30				Total Depth: 24' bgs.
			40				
			50				
			60				

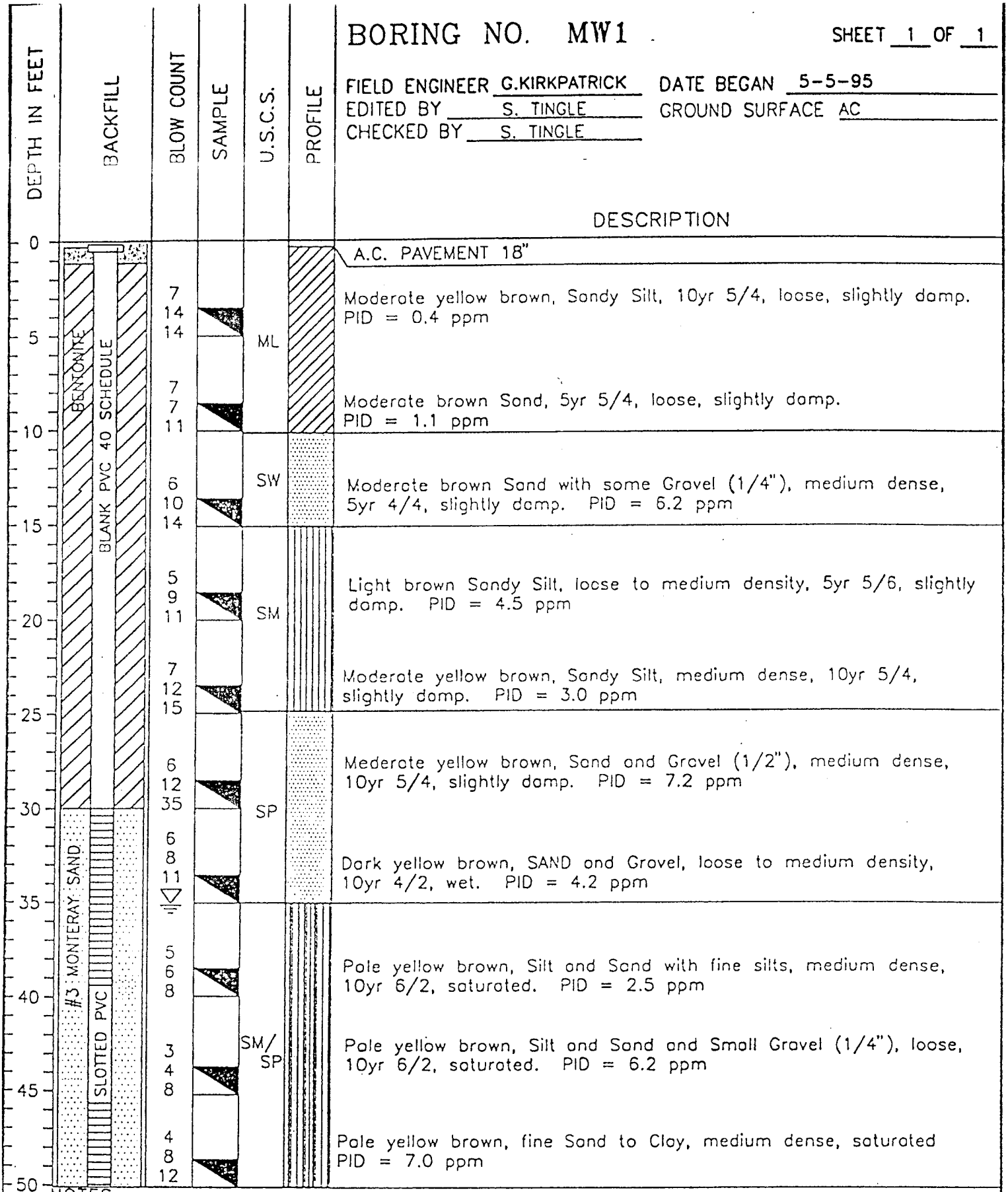
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BORING NO. MW1

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE

DATE BEGAN 5-5-95
GROUND SURFACE AC



DESCRIPTION

A.C. PAVEMENT 18"

Moderate yellow brown, Sandy Silt, 10yr 5/4, loose, slightly damp. PID = 0.4 ppm

Moderate brown Sand, 5yr 5/4, loose, slightly damp. PID = 1.1 ppm

Moderate brown Sand with some Gravel (1/4"), medium dense, 5yr 4/4, slightly damp. PID = 6.2 ppm

Light brown Sandy Silt, loose to medium density, 5yr 5/6, slightly damp. PID = 4.5 ppm

Moderate yellow brown, Sandy Silt, medium dense, 10yr 5/4, slightly damp. PID = 3.0 ppm

Moderate yellow brown, Sand and Gravel (1/2"), medium dense, 10yr 5/4, slightly damp. PID = 7.2 ppm

Dark yellow brown, SAND and Gravel, loose to medium density, 10yr 4/2, wet. PID = 4.2 ppm

Pale yellow brown, Silt and Sand with fine silts, medium dense, 10yr 6/2, saturated. PID = 2.5 ppm

Pale yellow brown, Silt and Sand and Small Gravel (1/4"), loose, 10yr 6/2, saturated. PID = 6.2 ppm

Pale yellow brown, fine Sand to Clay, medium dense, saturated PID = 7.0 ppm

NOTES: Hand Auger first 5 feet

TOTAL DEPTH OF 50 FEET
USING 10" HOLLOW STEM AUGER

APEX ENVIRONMENTAL RECOVERY
SMARTER SOLUTIONS FOR A CLEANER TOMORROW

CLIENT CALTRANS T.O. # 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

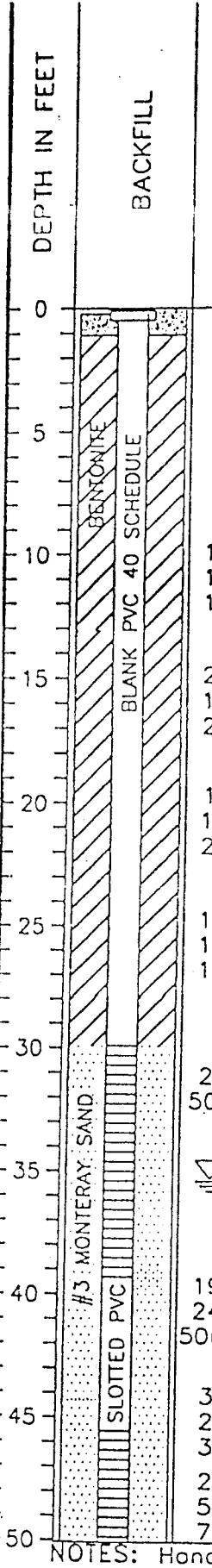
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BORING NO. MW2

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE

DATE BEGAN 5-5-95
GROUND SURFACE AC



BLOW COUNT	SAMPLE	U.S.C.S.	PROFILE	DESCRIPTION
				A.C. Pavement 3'
5 3 2		SW		Dark yellow brown Sand, loose, 10yr 4/2, damp. PID = 2.6 ppm
17 13 12		SP		Dark Yellow brown Sand, medium dense, 5yr 5/4, loose, slightly damp. PID = 7.0 ppm
20 17 23		ML		Moderate yellow brown Silt and Sand with small gravel, medium dense, 10yr 5/4, damp. PID = 7.8
11 14 23				Moderate yellow brown Sandy Silt, loose to medium density, 5yr 5/6, slightly damp. PID = 2.5 ppm
15 13 16				Moderate yellow brown Sandy Silt, medium dense, 10yr 5/4, slightly damp. PID = 6.2 ppm
21 50(6")		SP		Dark yellow brown Sand, dense, 10yr 4/2, damp. PID = 3.0 ppm
				No Recovery
19 24 50(3")		SM		Dark yellow brown Silty Sand, dense, 10yr 4/2, wet. PID = 3.1 ppm
3 2 3		SC		Pole yellow brown Sand, some Cloyey Silt, loose, soft, 10yr 6/2, wet, 2' layer of Cloy between 45' and 47'. PID = 3.3 ppm
2 5 7				Pole yellow brown sandy Cloy, soft, wet. PID = 2.5 ppm

NOTES: Hond Auger first 5 feet

TOTAL DEPTH OF 50 FEET
USING 10" HOLLOW STEM AUGER

APEX ENVIRONMENTAL RECOVERY
SMARTER SOLUTIONS FOR A CLEANER TOMORROW

CLIENT CALTRANS T.O.# 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

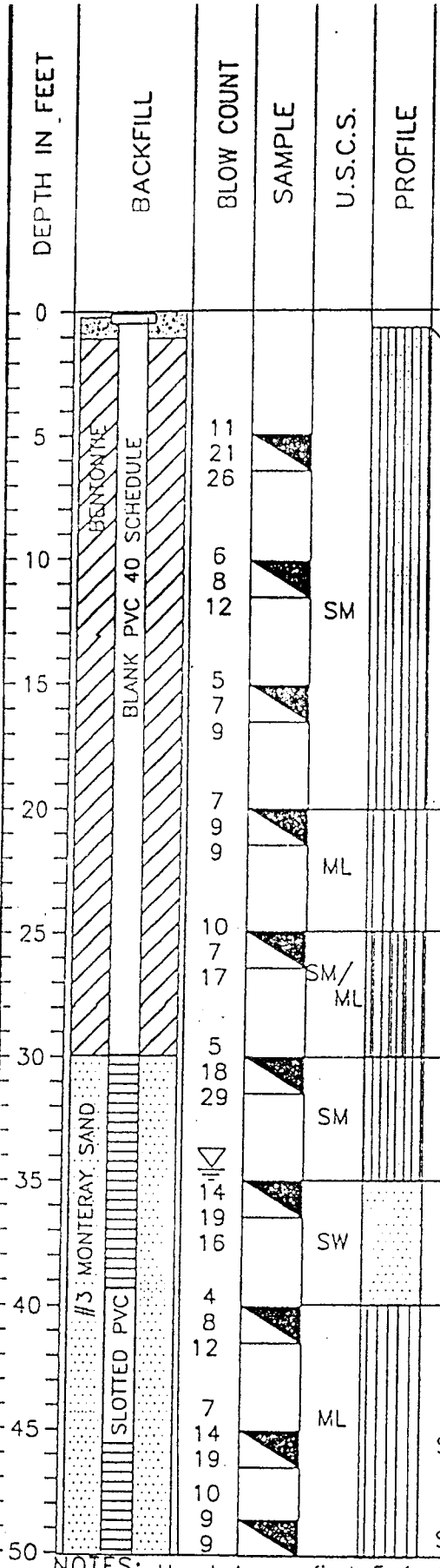
GEOTRACKER ID#:T0604700004

BORING NO. MW3

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE

DATE BEGAN 5-4-94
GROUND SURFACE AC



DESCRIPTION
A.C. Pavement 2"
Moderate yellow brown Silt and Sand, medium dense, slightly damp, 10yr 5/4. PID = 1.6ppm
Moderate brown Silt and Sand, medium dense, 5yr 4/4, slightly damp. PID = 4.9 ppm
Moderate yellow brown Silt and Sand, loose, 5yr 4/4, slightly damp. PID = 6.0 ppm
Moderate yellowish brown clayey Silt with fine sand, 10yr 5/4, damp. PID = 6.9 ppm
Moderate yellowish brown Silt, fine Sand, some round gravel, slightly dense, 10yr 5/4, damp. PID = 2.7 ppm
Moderate yellowish brown silty fine Sand with some medium rounded gravel, slightly dense, 10yr 5/4, damp. PID = 2.5 ppm
Dark yellowish brown, well-grated medium to coarse Sand with some gravel, loose, 10yr 4/2, wet to saturated. PID = 2.0 ppm
Pale yellowish brown clayey Silt with trace fine sand, slightly dense, 10yr 6/2, damp to moist. PID = 2.2 ppm
Same as above. PID = 8.1 ppm
Same as above. PID = 1.8 ppm

NOTES: Hand Auger first 5 feet

TOTAL DEPTH OF 50 FEET
USING 10" HOLLOW STEM AUGER

APEX ENVIRONMENTAL RECOVERY
SMARTER SOLUTIONS FOR A CLEANER TOMORROW

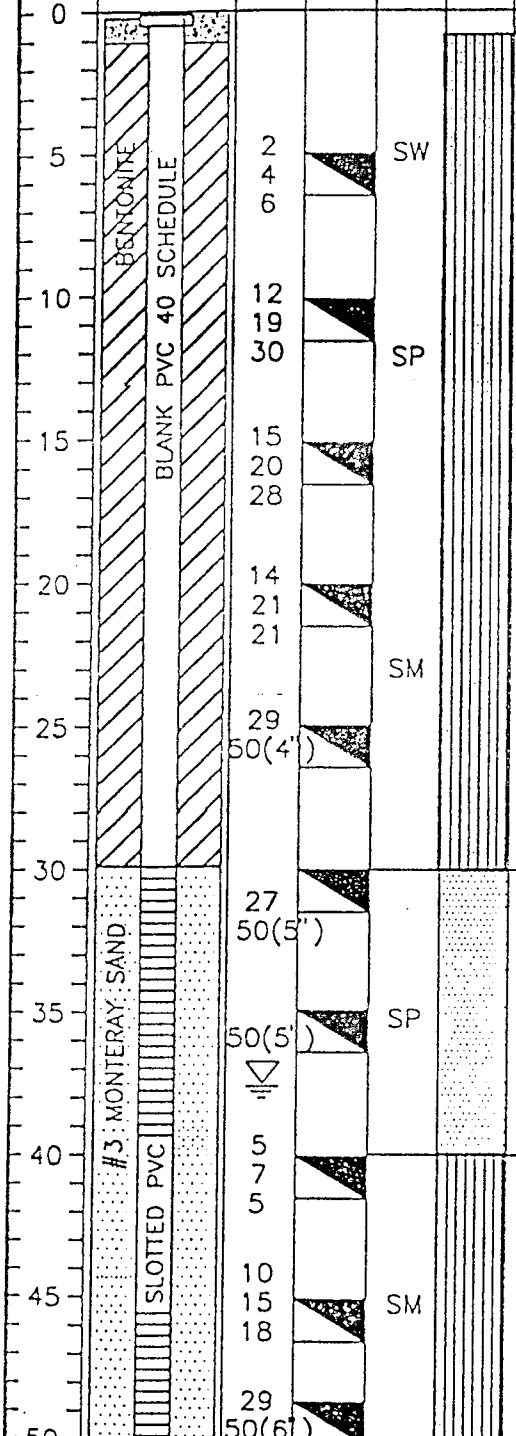
CLIENT CALTRANS T.O.# 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

GEOTRACKER ID#:T0604700004

BORING NO. MW4

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE
DATE BEGAN 5-4-95
GROUND SURFACE CONCRETE SLAB



DESCRIPTION
6" CONCRETE – SAND BASE
Dark yellow brown Silt and Sand, loose, strong odor, 10yr 4/2, damp. PID = 22.85 ppm
Moderate yellow brown Silt and Sand, Scattered clay, medium dense, 10yr 5/4, slightly damp. PID = 22.99 ppm
Dark yellow brown Silt and Sand, loose, strong odor, 10yr 4/2, damp. PID = 311 ppm
Dark yellow brown Silt and Sand, loose, strong odor, 10yr 4/2, damp. PID = 2348 ppm
Dark yellow brown Silt and Sand, loose, strong odor, 10yr 4/2, damp. PID = 1680 ppm
Dark yellow brown Sand, dense, strong odor, 10yr 4/2, damp. PID = 263 ppm
Dark Yellow brown Sand with some gravel, very dense, strong odor, 10yr 4/2, damp. PID = 38.5 ppm
Pale yellow brown Silt and Sand with coarse clay and fine silt, soft, slight odor, 10yr 6/2, saturated. PID = 5.5 ppm
Pale yellow brown Silt with some Sand, medium dense, 10yr 6/2, saturated, no odor. PID = 41.1 ppm
Pale yellow brown Silt and Sand, fine silt, dense, 10yr 6/2, saturated, no odor. PID = 13.2 ppm

NOTES: Hand Auger first 5 feet

TOTAL DEPTH OF 50 FEET
USING 10" HOLLOW STEM AUGER

APEX ENVIRONMENTAL RECOVERY
SMARTER SOLUTIONS FOR A CLEANER TOMORROW

CLIENT CALTRANS T.O.# 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

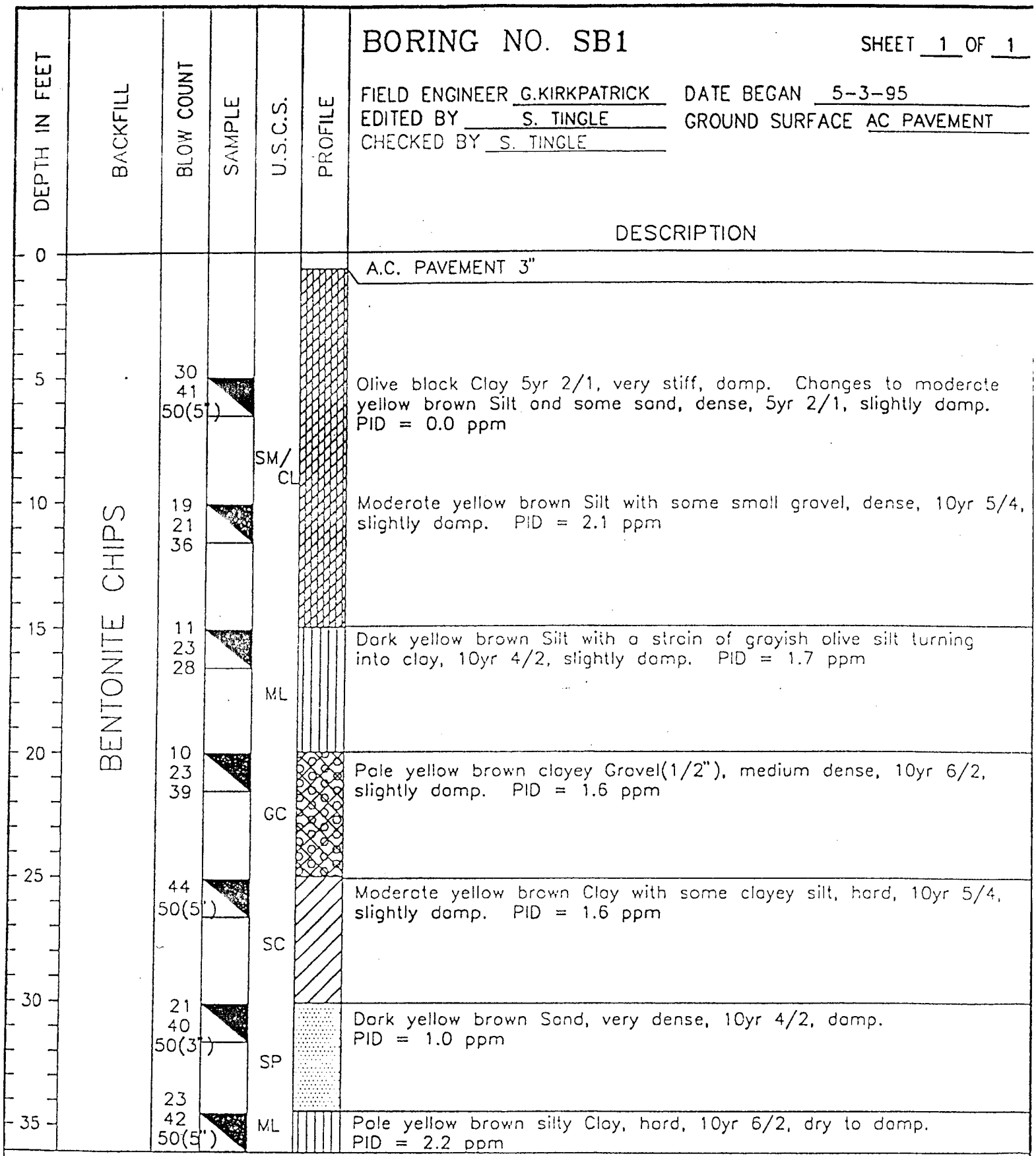
GEOTRACKER ID#:T0604700004

BORING NO. SB1

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE

DATE BEGAN 5-3-95
GROUND SURFACE AC PAVEMENT



NOTES: Hand Auger first 5 feet

TOTAL DEPTH OF 36 FEET
USING 8" HOLLOW STEM AUGER

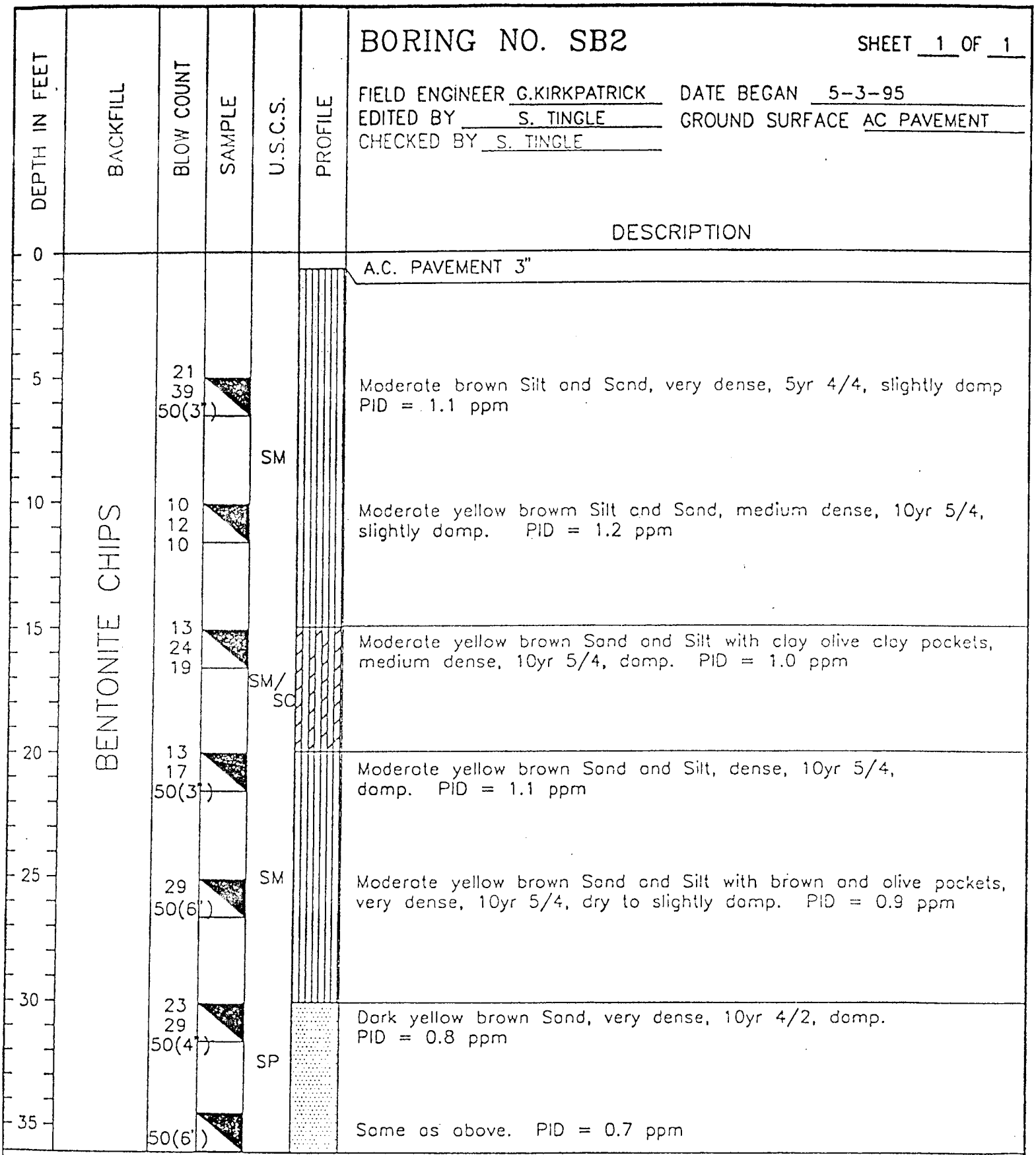
CLIENT CALTRANS T.O. # 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

GEOTRACKER ID#:T0604700004

BORING NO. SB2

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK DATE BEGAN 5-3-95
EDITED BY S. TINGLE GROUND SURFACE AC PAVEMENT
CHECKED BY S. TINGLE



NOTES: Hand Auger first 5 feet

TOTAL DEPTH OF 36 FEET
USING 8" HOLLOW STEM AUGER

CLIENT CALTRANS T.O. # 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

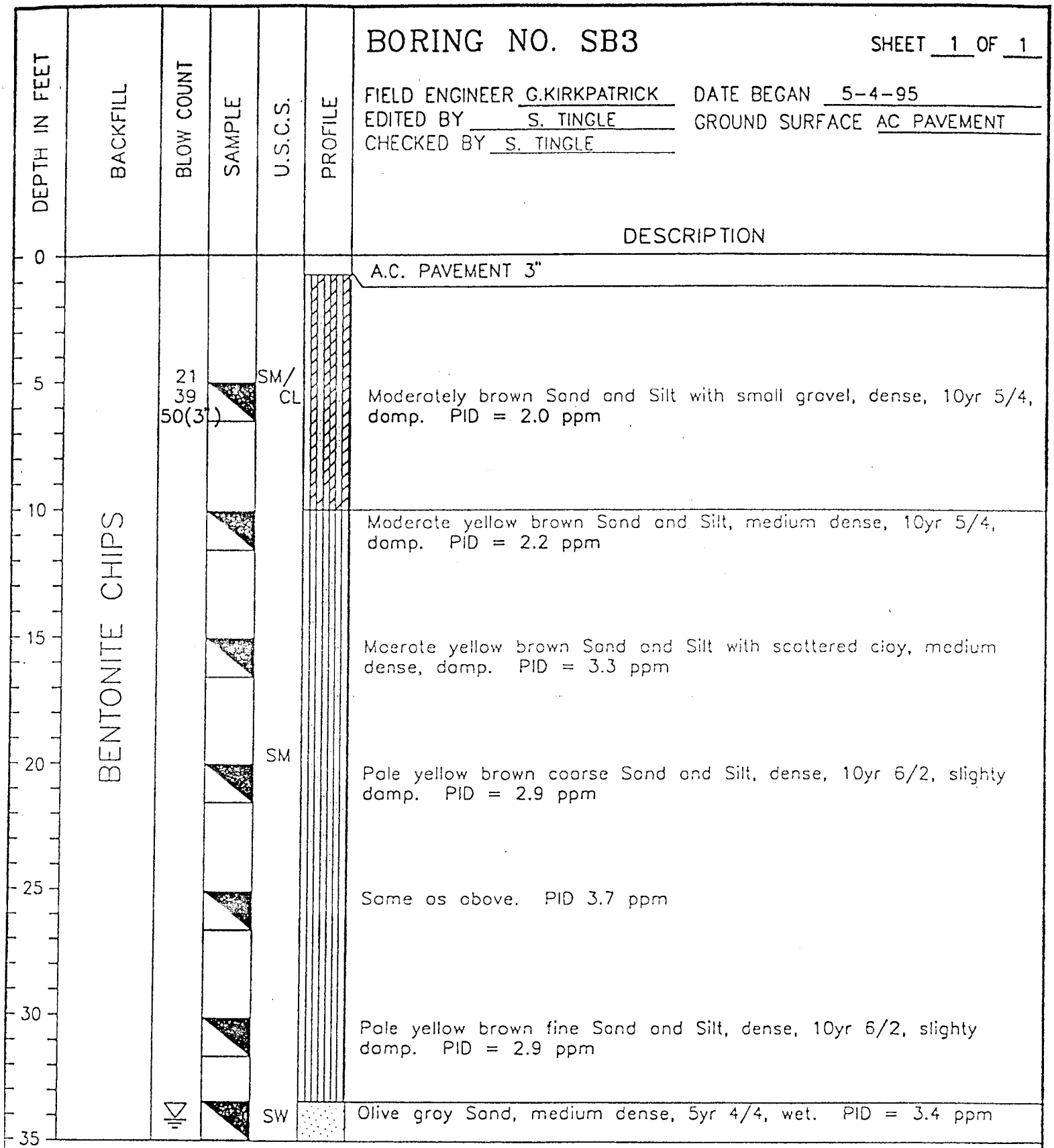
GEOTRACKER ID#:T0604700004

BORING NO. SB3

SHEET 1 OF 1

FIELD ENGINEER G.KIRKPATRICK
EDITED BY S. TINGLE
CHECKED BY S. TINGLE

DATE BEGAN 5-4-95
GROUND SURFACE AC PAVEMENT



NOTES: Hand Auger first 5 feet
Samples pushed becouse of slant drilling

TOTAL DEPTH OF 35 FEET
USING 8" HOLLOW STEM AUGER

CLIENT CALTRANS T.O. # 10-5F1000-04
PROJECT NO. 199DT
LOCATION MERCED MAINTENANCE STATION

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB1
DRILLING DATE 2/20/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Fill material	Backfilled with 5% Bentonite/ Portland cement grout.
5			Clay; 10YR 3/4 dark yellowish brown; moist; plastic. CL	
			Clayey silt; 10YR 5/4 yellowish brown; moist; moderately plastic.	
10			Clay; 10YR 4/4 dark yellowish brown; moist; plastic. CL	
			Gravelly clay; 10YR 3/4 dark yellowish brown; moist; plastic. CL	
15	25/2	80ppm	Gravelly coarse unsorted sand. SP TOTAL DEPTH = 15 FEET	

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers.
DRILL HOLE NO. SB2
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Backfill material	Backfilled with 5% Bentonite/ Portland cement grout.
5			Clay; 10YR 4/4 dark yellowish brown; moist; plastic. CL	
10			Silty clay; 10YR 3/4 dark yellowish brown; moist; moderately plastic. CL	
15	20/2	100ppm	Silty clay; 7.5YR 4/6 strong brown; moist; moderately plastic. CL	
			Gravelly coarse unsorted sand. SP TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB3
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
5	14/2	1200ppm	Backfill material Refusal and very strong odor. TOTAL DEPTH = 7 FEET	Backfilled with 5% Bentonite/ Portland cement grout.
10				
15				

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB4
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Backfill	Backfilled with 5% Bentonite/ Portland cement grout.
5			Clay; 10YR 3/4 dark yellowish brown; moist; plastic. CL	
			Silty clay; 10YR 5/4 yellowish brown; moist; moderately plastic. CL	
10			Clay; 10YR 4/4 dark yellowish brown; moist; plastic. CL	
			Clay; 7.5YR 4/6 strong brown; moist; plastic. CL	
15	16/2	100ppm	Gravelly coarse unsorted sand. SP TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB5
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
5			Backfill material	Backfilled with 5% Bentonite/ Portland cement grout.
10			Silty clay; 10YR 3/4 dark yellowish brown; moist; moderately plastic. CL	
15	20/2	100ppm	Clay; 7.5YR 4/6 strong brown; moist; plastic. CL	
			Gravelly coarse unsorted sands. SP TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB6
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
5			Fill material	Backfilled with 5% Bentonite/ Portland cement grout.
10			Clay; 10YR 3/4 dark yellowish brown; moist; plastic. CL	
15	18/2	100ppm	Silty clay; 7.5YR 4/6 strong brown; moist; moderately plastic. CL	
			Coarse unsorted sand. SP TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DRILL HOLE NO. SB7
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Dark oily soil Backfill	Backfilled with 5% Bentonite/ Portland cement grout.
5			Clay; 10YR 4/4 dark yellowish brown; very moist; plastic. CL	
10			Clay; 10YR 5/4 yellowish brown; moist; plastic. CL	
			Silty clay; 7.5YR 4/6 strong brown; moist; moderately plastic. CL	
15	16/2		Sandy silt; 10YR 4/4 dark yellowish brown; moist; non-plastic. ML TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers
DRILL HOLE NO. SB8
DRILLING DATE 2/21/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.
COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Concrete	Backfilled with 5% Bentonite/ Portland cement grout.
			Fill material	
		1000ppm	Sandy clay; 10YR 3/4 dark yellowish brown; moist; plastic. CL	
5	27/2	2800ppm	Very strong odor starting at 2 feet below grade	
			Sandy silt; 7.5YR 4/6	
10	18/2	5000ppm	ML	
			Silt; 2.5Y 5/2 grayish brown; moist; non-plastic. ML	
15	6/2	5200ppm	Coarse unsorted sand; 2.5Y 5/2 grayish brown; moist; non-plastic. SM	
			Silt; 2.5Y 4/0 dark gray; very moist; non-plastic. ML	
20	10/2	2600ppm		
			Sandy silt; 10YR 5/3 brown; moist; hard and indurated. NL	
25	50/2	100ppm		
	23/2		Silty medium subrounded sand grading to clean medium subrounded sand. SM	TOTAL DEPTH = 30 FEET

GEOTRACKER ID#:T0604700004

GHH ENGINEERING INC.

LOG OF SOIL BORING MONITORING WELL

PROJECT Caltrans - Merced
LOCATION Merced, CA
DRILLING METHOD CME 75 Drill Rig with 6.5" hollow stem augers

DRILL HOLE NO. SB9
DRILLING DATE 2/22/91
LOGGED BY C.D. Pratt
DRILLED BY Wayne Drilling Co.

COMMENTS Bacharach TLV Sniffer - Background = 100ppm

DEPTH (FEET)	BLOWS/FT	HEADSPACE READING	SOIL DESCRIPTION	BORING/WELL SCHEMATIC
			Backfill	Backfilled with 5% Bentonite/ Portland cement grout.
5			Clay; 10YR 4/4 dark yellowish brown; moist; plastic. CL	
10			Silty clay; 7.5YR 4/6 strong brown; moist; plastic. CL	
15	15/2	100ppm	Coarse unsorted sands. SP TOTAL DEPTH = 15 FEET	

GEOTRACKER ID#:T0604700004

PROJECT NAME/LOCATION	Number		Number
Beacon Station No. 614 1975 East Childs Avenue Merced, CA Delta Project No. D000-988	Contractor: Vironex Environmental Field Services	Drilling Method:	GeoProbe ADD 4 2000
	Driller: Mike Martin	Drilling Rig:	6600
	Start: 12/27/00 ~~1100~~ 1108	Completed:	12/27/00
Landowner: Beacon	Surface Elev.: --	Logged By:	Brett Bardsley

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in)	Depth Scale 1" = 1'	Descriptions of Materials and Conditions	Observations Instrument Units	Observations PID ppm	Observations Comments
Geopro be					0	Concrete			
					1	Baserock			
					2				
					3				
					4				
	GP-1-5		5.0	48	1100 5	Poorly graded Sands, Reddish brown, very Fine To Medium,		0	
					6				
					7				
					8				
					9				
	GP-1-10		5-10	48	1110 10	Sand with SILT Reddish brown, very Fine To Fine grain Sand, SOFT, moist		0	
					11		SM		
					12				
					13				
					14				
	GP-1-15		10-15	54	1115 15	Poorly graded sand with SILT Reddish brown To olive, Fine grain Sand, SOFT, moist		0	
					16				
					17		SP		
					18				
					19				
	GP-1-20		15-20	42	1120 20	Clay, Sand Light Brown clay, very Fine To Fine, dry, loose		0	
					21				
					22		CL		
					23				

BOREHOLE WATER LEVEL DATA			
Date	12/27/00		
Time	1135		
GWL	28.42		
Casing Depth			

Delta Environmental Consultants, Inc.

GEOTRACKER ID#:T0604700181

PROJECT NAME/LOCATION:	Number	J100-788	Number	GP-1
	Contractor		Drilling Method	
	Driller		Drilling Rig	
	Start		Completed	
Landowner:	Surface Elev.		Logged By	

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in.)	Depth Scale 1" = 4"	Descriptions of Materials and Conditions	Observations Instrument: Vapor hNu ppm	Comments
					24			
	GP-1-25		20-25	42	25	clay sand		
					26	darker brown clay, minor coarse sand, firm-soft	0	
					27			
					28			
	GP-1-29'		25-29	60	29	Sand		
					30	light gray sand, Find grain Sand moist, loose	0	
					31			
					32	T.D. = 32' bsg		
					33			
					34			
					35			
					36			
					37			
					38			
					39			
					40			
					41			
					42			
					43			
					44			
					45			
					46			
					47			

BOREHOLE WATER LEVEL DATA			
Date			
Time			
GWL			
Casing Depth			

Delta Environmental Consultants, Inc.

Sheet 1 of 1

Rev. January 30, 19

GEOTRACKER ID#:T0604700181

Beacon Station No. 614 1975 East Childs Avenue Merced, CA Delta Project No. D000-958	Contractor: Vironex Environmental Field Services	Drilling Method: GeoProbe	
	Driller: Mike Martin	Drilling Rig: 6600	
	Start: 12/27/00	Completed: 12/27/00	
Landowner: Beacon	Surface Elev.: --	Logged By: Brett Bardsley	

Sample Type	Sample No.	Blow Counts	Sample Interval (ft)	Sample Recovery (in)	Depth Scale 1" = 1'	Description of Materials and Conditions	Observations Instrument Units	Observations Instrument Reading ppm	Comments
Geoprobe					0	concrete			
					1	Baserock			
					2				
					3				
					4				
GP-3	V				5				
	-5	—	0-5 ft	60	6	Sand			
					7	medium grain, olive gray, loose, moist			
					8				
					9				
GB-2-10			5-10	41	10	clay		0	
					11	Reddish brown, lean, moist,			
					12	soft			
					13				
					14				
GB-2-15			10-15	45	15	Sand with silt		0	
					16	Reddish brown, moist, soft			
					17				
					18				
					19				
GB-2-20			15-20	0	20	Sand		0	
			No Recovery		21	dry, loose, fine to medium			
					22				
					23				

BOREHOLE WATER LEVEL DATA			
Date	12/27/00		
Time	1409		
GWL	27.82		
Casing Depth			

Delta Environmental Consultants, Inc.

GEOTRACKER ID#:T0604700181

PROJECT NAME/LOCATION:	Number	D180-988	Boring Number	GP-2
	Contractor		Drilling Method	
	Driller		Drilling Rig	
	Start		Completed	12/27/00
Landowner:	Surface Elev.		Logged By	Brett

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in.)	Depth Scale 1" = 4'	Descriptions of Materials and Conditions	Observations Instrument: Units: HNu ppm	Comm
	GP-2-25	—		39	24 25 1355	sand		
					26	gray, coarse to medium, moist	0	
					27	hard		
					28			
	GP-2-29		25-29	60	29 1407	sand		
					30	medium to fine, gray, moist,	0	
					31	SOFT		
					32			
	GP-2-33		~~28~~ 33	60	33 1435	sand		
					34	medium, tan, meta-volcanic	0	
					35			
					36	T.D. 34'		
					37			
					38			
					39			
					40			
					41			
					42			
					43			
					44			
					45			
					46			
					47			

BOREHOLE WATER LEVEL DATA			
Date			
Time			
GWL			
Casing Depth			

Delta Environmental Consultants, Inc.

Sheet 1 of 1

Rev. January 20..

GEOTRACKER ID#:T0604700181

PROJECT NAME/LOCATION	Number		Number	
Beacon Station No. 614 1975 East Childs Avenue Merced, CA Delta Project No. D000-983	Contractor	Vironex Environmental Field Services	Drilling Method	GeoProbe
	Driller	Mike Martin	Drilling Rig	6600
	Start	12/27/00 0845	Completed	12/27/00 1045
Landowner: Beacon	Surface Elev.	--	Logged By	Brett Bardsley

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in)	Depth Scale 1" = 1'	Descriptions of Materials and Conditions	Observations Instrument Units	Observations ppm	Observations Comments
Geo-Probe	~~GP-3-5~~				0	concrete			
					1	BASEROCK			
					2				
					3				
					4				
	GP-3-5	-	5.0	60	0915 5	Clay, Reddish brown, firm-stiff, dry (CL)		0	
					6				
					7				
					8	Increase silt, soft to firm			
					9				
	GP-3-10	-	5-10	42	0916 10			0	
					11				
					12				
					13	Poorly Graded Sand			
					14	Reddish brown, very fine to medium grain sand with clay, firm & moist			
	GB-3-15		10-15	54	920 15	(SP)		0	
					16	olive green color interbedded			
					17				
					18				
					19				
	GP-3-20		15-20	27	92020	Poorly sorted sand with Gravel		0	
					21	Brown, coarse to medium grain sand, moist, soft			
					22				
					23				

BOREHOLE/WATER LEVEL DATA			
Date	12/27/00		
Time	0736		
GWL	25.58		
Casing Depth			

Delta Environmental Consultants, Inc.

GEOTRACKER ID#:T0604700181

PROJECT NAME/LOCATION:	Number	D100 -988	Boring Number	GB-25 GB-28
	Contractor		Drilling Method	
	Driller		Drilling Rig	
	Start		Completed	12/27/00
Landowner:	Surface Elev.		Logged By	Brett

Sample Type	Sample No.	Blow Count	Sample Interval (ft)	Sample Recovery (in.)	Depth Scale 1" = 4'	Descriptions of Materials and Conditions	Observations Instrument: Units:	Observations Nu. ppm:	Observations Comment
GB-25 →	✓		20-25	42	24 0935 25	Sand, clay gray			
					26	light ~~brown~~ clay, very Fine To Fine, ~~dry~~ moist loose		0	
					27				
GB-28 →	✓		25-28	50	1029 28	Sand			
					29	light gray sand, Fine grain sand, moist, loose		0	
					30				
					31				
		No Recovery			32				
					33	T.D. = 34			
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				
					45				
					46				
					47				

BOREHOLE WATER LEVEL DATA			
Date			
Time			
GWL			
Casing Depth			

Delta Environmental Consultants, Inc.

Sheet 1 of 1

Rev. January 31, 1995

GEOTRACKER ID#:T0604700181

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-1

SHEET No. 1 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
0.6	2" asphaltic concrete over 5" aggregate base										
	SILT, Sandy; Medium stiff, slightly moist, high plasticity, micas, dark brown (MH)	SSS	--	--							
4.5		SSS	20	--							
5	SILT, Sandy; Hard, slightly moist, low to no plasticity, brown (ML)										
10	Containing some gray lenses, oxides with black areas	SSS	29	--							
15	Becoming hard	SSS	31	--							
20	Interbedded moist gray lenses	SSS	27	--							
23	GWL (3-8-85)										
24.5											
25											

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-1

SHEET No. 2 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED: GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, micas, gray (SP)	--	--	--							
30											
31.5	Bottom of Boring										
35											
40											
45											
50											

The Twining Laboratories, Inc.

Visalia Fresno Modesto Stockton

GEOTRACKER ID#:T0604700181

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-2

SHEET No. 1 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
0.5	2" asphaltic concrete over 4" aggregate base										
	SILT, Sandy; Very stiff, slightly moist, high plasticity, dark brown (MH)	SSS	21	--							
4.5		SSS	71	--							
5	SILT, Sandy; Hard, slightly moist, low to no plasticity, slightly cemented, dark brown (ML)										
10	Becoming very stiff; brown	SSS	17	--							
15	Becoming hard, gray lenses with some cementing	SSS	53	--							
20		SSS	11	--							
23	GWL (3-8-85)										
24.5											
25											

GEOTRACKER ID#:T0604700181

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-2

SHEET No. 2 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/Ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, gray (SP)	--	--	--							
34.5	Bottom of Boring										
35											
40											
45											
50											

The Twining Laboratories, Inc.

Visalia Fresno Modesto Stockton

GEOTRACKER ID#:T0604700181

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-3

SHEET No. 1 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
0.5	2" asphaltic concrete over 4" aggregate base										
	SILT, Sandy; Very stiff, slightly moist, high plasticity, dark brown (MH)	SSS	16	--							
3.5	SILT, Sandy; Hard, slightly moist, low to no plasticity, gray to brown (ML)										
5		SSS	68	--							
10		SSS	37	--							
	Containing more gray lenses										
15		SSS	32	--							
20	Becoming very stiff	SSS	17	--							
23	GWL (3-8-85)										
24.5											
25											

LOG OF BORING

PROJECT: Arco Station No. 614
Merced, California

JOB No: TL 685-017-00

DRILL TYPE: Mobile B-61

DRILLED BY: R. Lawrence LOGGED BY: D. Diebert

REMARKS:

HOLE No.: B-3

SHEET No. 2 OF 2

LOCATION: See Attached Site Plan

ELEVATION: TOP OF HOLE: ---

GROUNDWATER: 23.0

DATE: STARTED: 3-8-85

COMPLETED: 3-8-85

DEPTH	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (pcf)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, gray (SP)										
30		--	--								
34.5	Bottom of Boring										
35											
40											
45											
50											

The Twining Laboratories, Inc.

Visalia Fresno Modesto Stockton

GEOTRACKER ID#:T0604700181

MONITORING WELL INSTALLATION REPORT

Project: Arco Gas Station No. 614 — No. Boring B-1

Project No. TL 685-017-00 — Installed By: D. Diebert — Location: See Attached Site Plan — Date: 3-8-85 — Time:

Method of Installation: Boring is drilled using 8-inch hollow auger. Auger is removed from boring and pipe is lowered into the boring. Depth of pipe, depth of seals, type of soils, and type of pipe installed is shown on the following sketch.

LOG OF BORING AND WELL INSTALLATION

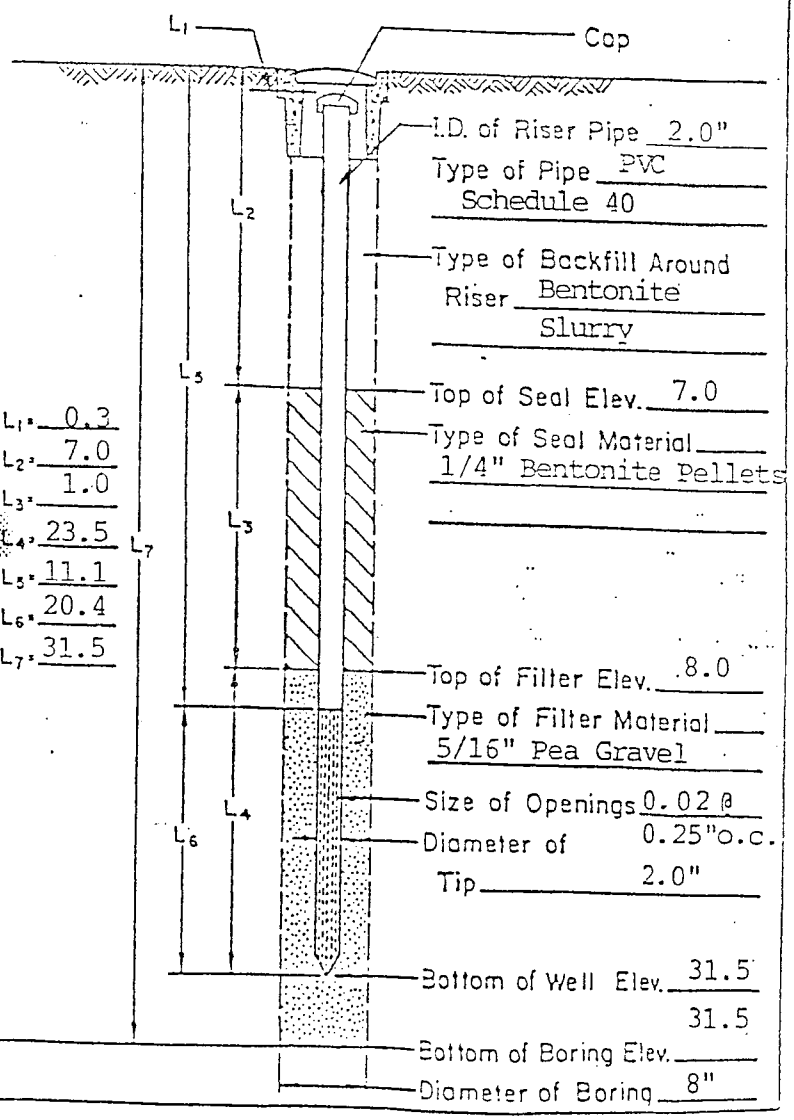
BORING

Depth in ft.	Description	Symbol
0	2" asphaltic concrete over 5" aggregate base	
0.6	SILT, Sandy; Medium stiff, slightly moist, high plasticity, micas, dark brown	MH
4.5	SILT, Sandy; Hard, slightly moist, low to no plasticity, brown	ML
23.0	GWL (3-8-85)	
24.5	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, micas, gray	SP
31.5	Bottom of Boring	

L_1 = 0.3
L_2 = 7.0
L_3 = 1.0
L_4 = 23.5
L_5 = 11.1
L_6 = 20.4
L_7 = 31.5

Type of Well Instld. Vadose Zone Monitoring Well

Ground Elev. 0.0 — Top of Riser Elev.



I.D. of Riser Pipe 2.0"
Type of Pipe PVC Schedule 40
Type of Backfill Around Riser Bentonite Slurry
Top of Seal Elev. 7.0
Type of Seal Material 1/4" Bentonite Pellets
Top of Filter Elev. 8.0
Type of Filter Material 5/16" Pea Gravel
Size of Openings 0.02 @ 0.25"o.c.
Diameter of Tip 2.0"
Bottom of Well Elev. 31.5
Bottom of Boring Elev. 31.5
Diameter of Boring 8"

	DATE: 3/4/85
DRAWN BY: JP	APPROVED BY: DWD
	DRAWING No. 1 of 3

The Twining Laboratories, Inc.

GEOTRACKER ID#:T0604700181

MONITORING WELL INSTALLATION REPORT

Project Arco Gas Station No. 614 No. Boring B-2

Project No. TL 685-017-00 Installed By D. Diebert Location See Attached Site Plan

Date 3-8-85 Time

Method of Installation Boring is drilled using 6-inch straight flight auger. Auger is removed from boring and pipe is lowered into the boring. Depth of pipe, depth of seals, type of soils, and type of pipe installed is shown on the following sketch.

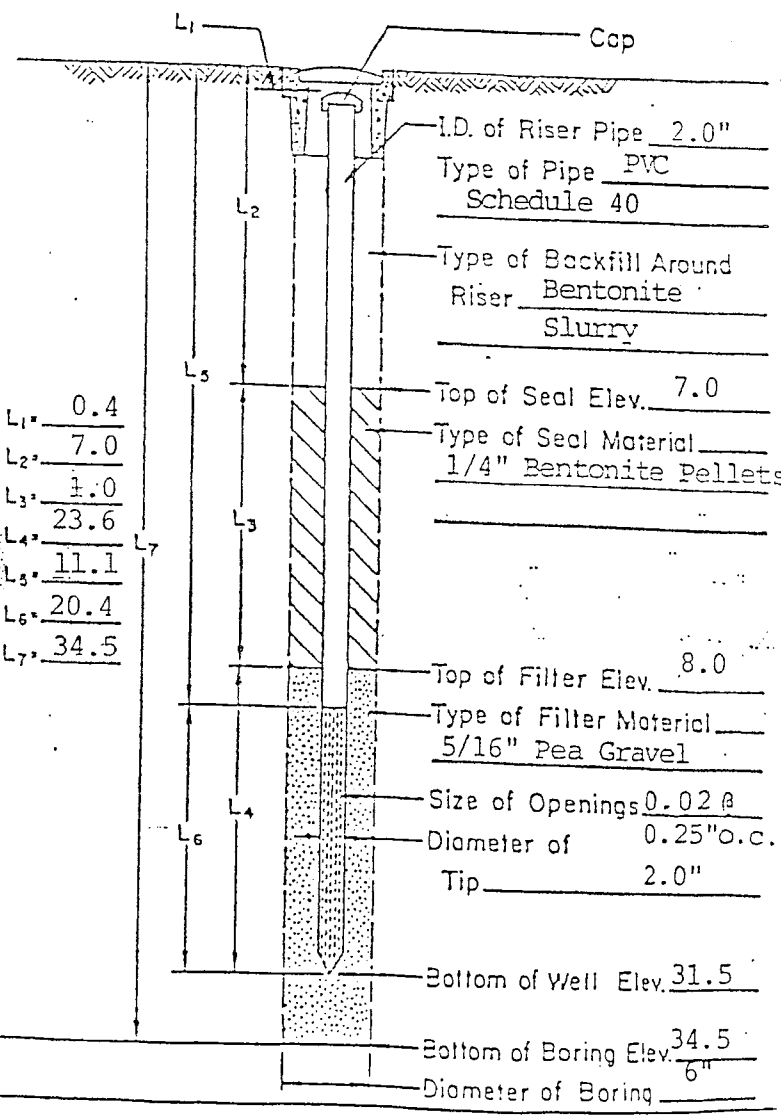
LOG OF BORING AND WELL INSTALLATION

BORING

Depth in ft.	Description	Symbol
0		
0.5	2" asphaltic concrete over 4" aggregate base	
4.5	SILT, Sandy; Very stiff, slightly moist, high plasticity, dark brown	MH
5		
10	SILT, Sandy; Hard, slightly moist, low to no plasticity, slightly cemented, dark brown	ML
20		
23	GWL (3-8-85)	
29.5	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, gray	SP
30		
34.5	Bottom of Boring	
40		
50		

Type of Well Instld. Vadose Zone Monitoring Well

Ground Elev. 0.0 Top of Riser Elev.



L_1 = 0.4
L_2 = 7.0
L_3 = 1.0
L_4 = 23.6
L_5 = 11.1
L_6 = 20.4
L_7 = 34.5

I.D. of Riser Pipe 2.0"

Type of Pipe PVC Schedule 40

Type of Backfill Around Riser Bentonite Slurry

Top of Seal Elev. 7.0

Type of Seal Material 1/4" Bentonite Pellets

Top of Filter Elev. 8.0

Type of Filter Material 5/16" Pea Gravel

Size of Openings 0.02 @ 0.25"o.c.

Diameter of Tip 2.0"

Bottom of Well Elev. 31.5

Bottom of Boring Elev. 34.5

Diameter of Boring 6"

	DATE:
DRAWN BY:	APPROVED BY:
	DRAWING No. of

The Twining Laboratories, Inc.

GEOTRACKER ID#:T0604700181

MONITORING WELL INSTALLATION REPORT

Project Arco Gas Station No. 614 — No. Boring B-3

Project No. TL 685-017-00 — Installed By D. Diebert — Location See Attached Site Plan

Date 3-8-85 — Time

Method of Installation Boring is drilled using 6-inch straight flight auger. Auger is removed from boring and pipe is lowered into the boring. Depth of pipe, depth of seals, type of soils, and type of pipe installed is shown on the following sketch.

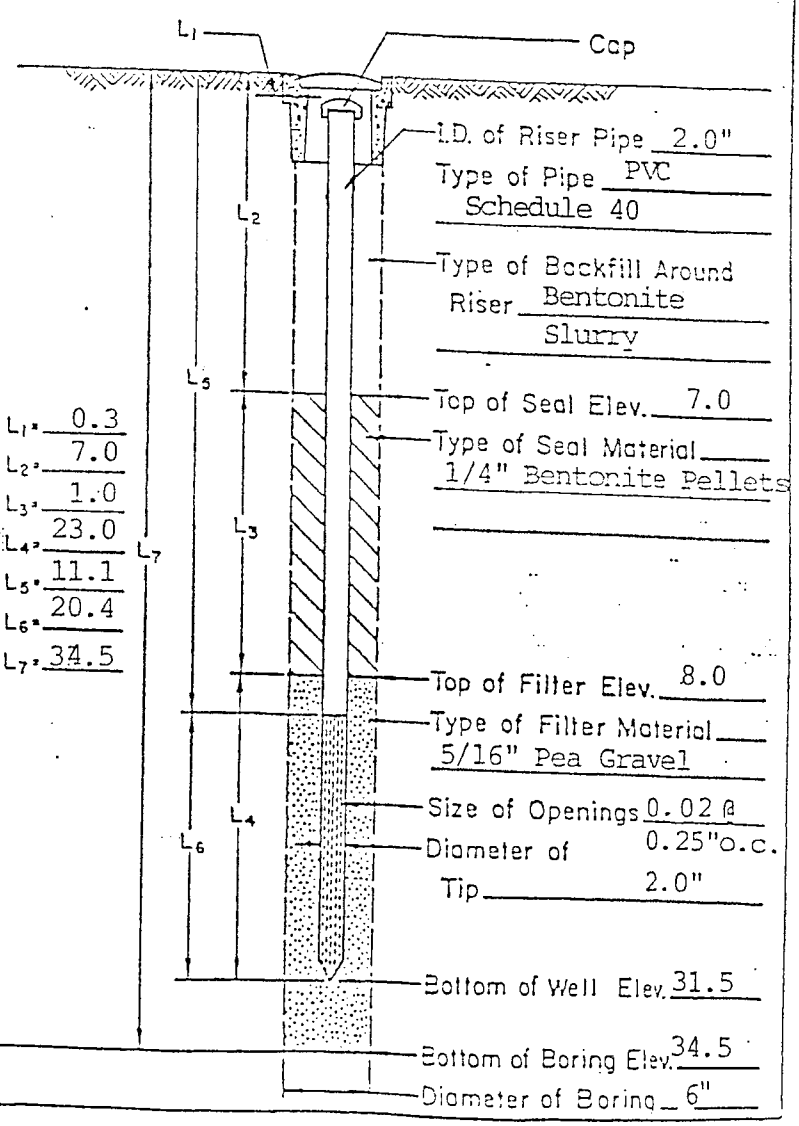
LOG OF BORING AND WELL INSTALLATION

BORING

Depth in ft.	Description	Symbol
0	2" asphaltic concrete over 4" aggregate base	
0.5	SILT, Sandy; Very stiff, slightly moist, high plasticity, dark brown	MH
3.5	SILT, Sandy; Hard, slightly moist, low to no plasticity, gray to brown	ML
10		
20		
23.0	GWL (3-8-85)	
24.5	SAND, Poorly Graded; Medium dense, very moist, medium to fine grained, gray	SP
30		
34.5	Bottom of Boring	
40		
50		

Type of Well Instld. Vadose Zone Monitoring Well

Ground Elev. 0.0 — Top of Riser Elev.



L_1 = 0.3
L_2 = 7.0
L_3 = 1.0
L_4 = 23.0
L_5 = 11.1
L_6 = 20.4
L_7 = 34.5

I.D. of Riser Pipe 2.0"

Type of Pipe PVC Schedule 40

Type of Backfill Around Riser Bentonite Slurry

Top of Seal Elev. 7.0

Type of Seal Material 1/4" Bentonite Pellets

Top of Filter Elev. 8.0

Type of Filter Material 5/16" Pea Gravel

Size of Openings 0.02 @ 0.25"o.c.

Diameter of Tip 2.0"

Bottom of Well Elev. 31.5

Bottom of Boring Elev. 34.5

Diameter of Boring 6"

DRAWN BY: JP — DATE: 3/4/85 — APPROVED BY: DLD — DRAWING No. 3 of 3

The Twining Laboratories, Inc.

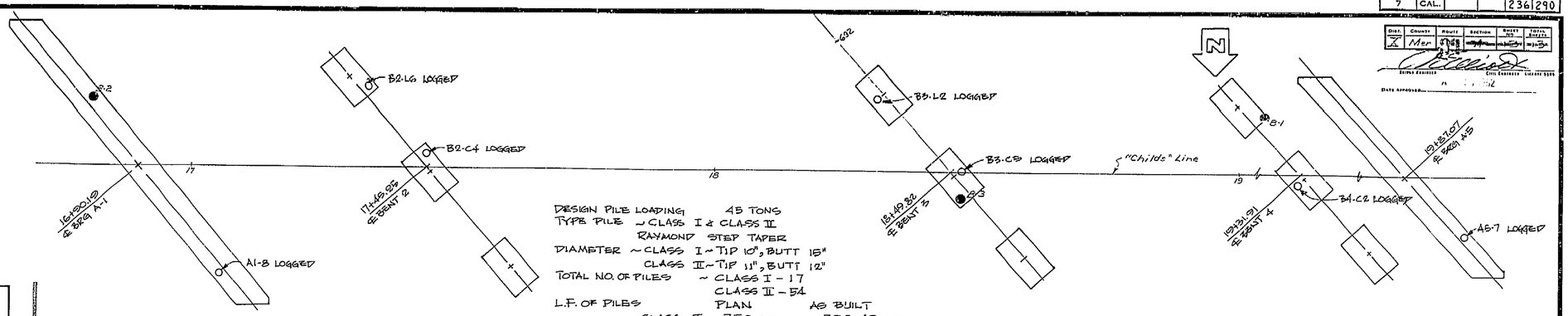
GEOTRACKER ID#:T0604700181

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	CAL.				236 290

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
X	Mer	99			

DATE APPROVED

AS BUILT PLANS
Contract No. 63-10T13C9
Date Completed
Document No. 00001193



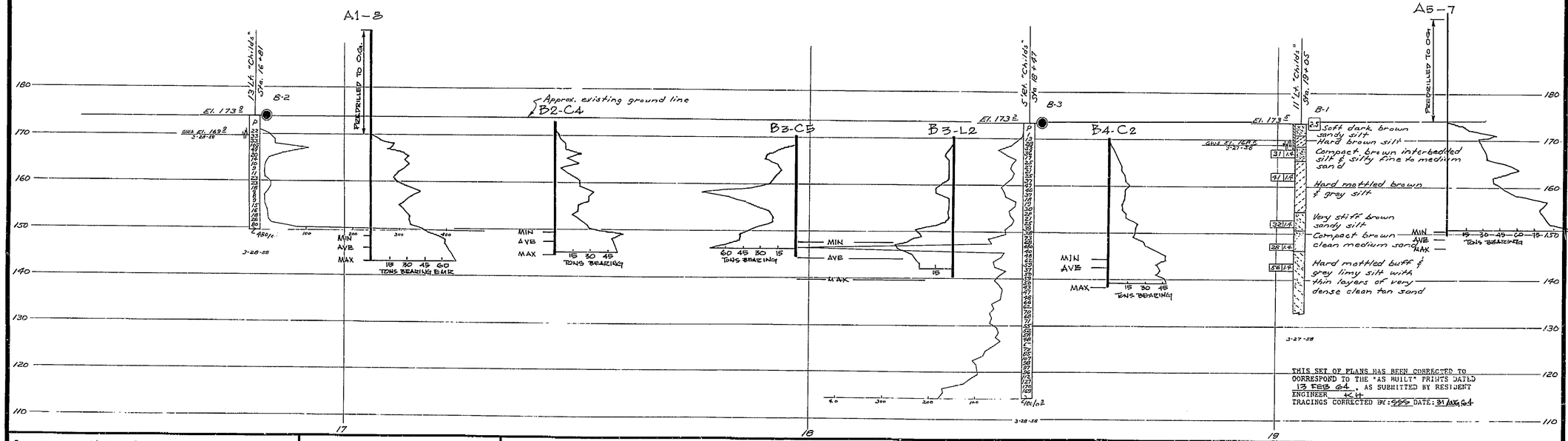
DESIGN PILE LOADING 45 TONS
TYPE PILE ~ CLASS I & CLASS II RAYMOND STEP TAPER
DIAMETER ~ CLASS I ~ TIP 10", BUTT 15"
CLASS II ~ TIP 11", BUTT 12"
TOTAL NO. OF PILES ~ CLASS I - 17
CLASS II - 54

L.F. OF PILES	PLAN	AS BUILT
CLASS I	750 L.F.	782.48 L.F.
CL. ASS II	1,060 L.F.	1,354.01 L.F.

HAMMER - MODIFIED 65C

BM Mon # Brass Highway disc. at SW. corner Highway 99 & Childs Ave. Elev. 175.66

BRIDGE DEPARTMENT



THIS SET OF PLANS HAS BEEN CORRECTED TO CORRESPOND TO THE "AS BUILT" PRINTS DATED 13 FEB 64, AS SUBMITTED BY RESIDENT ENGINEER KCH.
TRACINGS CORRECTED BY: DATE: 31 MAY 64

FIELD STUDY	a. T. Nielsen
DRAWN	b. M. Hanley 7-7-58
CHECKED	b. T. Nielsen 8-5-58

Approval Recommended: Bridge Engineer
Approved: Bridge Engineer

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

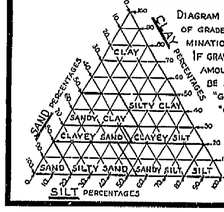


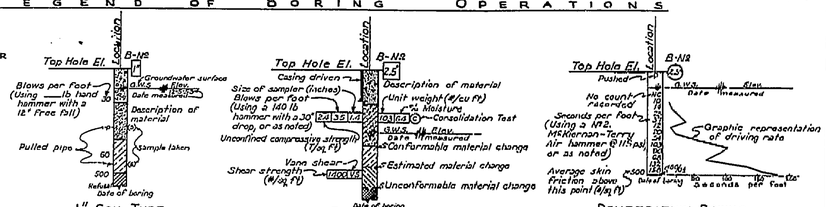
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2½" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT



NOTES

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

CHILDS AVENUE OVERCROSSING

LOG OF TEST BORINGS

SCALE	BRIDGE	FILE	DRAWING
1" = 10'	33-143		6103-13

PRE-6103-4

PREL. DRAWING NO. P-6103(5)

236

922

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE_____ SIGNATURE_____ TITLE_____

BR39-0143

MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM

ClibPDF - www.fastio.com

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	MER	CAMPUS			

REGISTERED GEOTECHNICAL ENGINEER

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No G.E. 666 — Exp 12/31/09 — GEOTECHNICAL — STATE OF CALIFORNIA

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly graded SAND Poorly graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL		
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166)
  Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 inches)
Very loose	0 – 4
Loose	5 – 10
Medium Dense	11 – 30
Dense	31 – 50
Very Dense	> 50

MOISTURE

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE

Description		Size
Boulder		> 12"
Cobble		3" to 12"
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS

Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

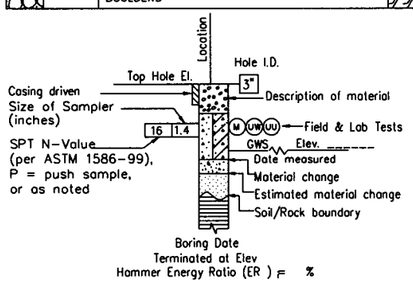
PLASTICITY OF FINE-GRAINED SOILS

Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

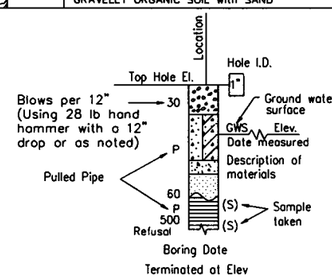
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring
Size	R P	Rotary drilled boring Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778-95)
□	O	Other

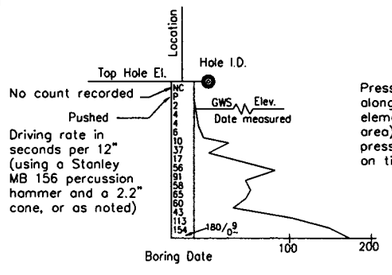
Note: Size in inches.



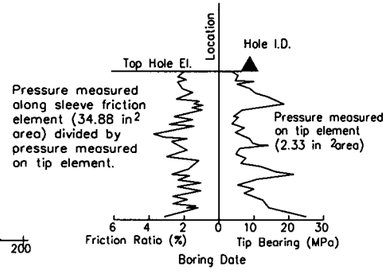
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

X DESIGN OVERSIGHT	DRAWN BY	L. TRAN	L. Bhangoo FIELD INVESTIGATION BY:	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	F. WANG PROJECT ENGINEER	BRIDGE NO. 39-0249L/R POST MILE -	SOIL LEGEND LOG OF TEST BORINGS
X SIGN OFF DATE	CHECKED BY	F. WANG	DATE: October 2007				

OSF GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

USERNAME => $USER

FILE => $REQUEST

CAMPUS PARKWAY OVERHEAD

P.M. 12.50

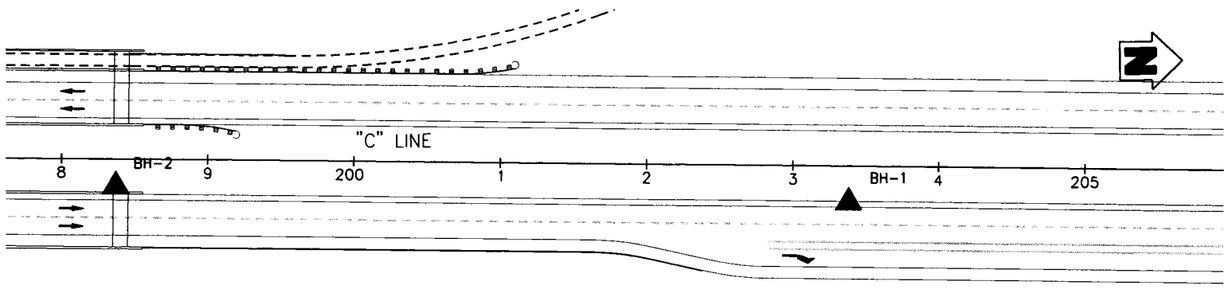
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	MER	CAMPUS			

REGISTERED GEOTECHNICAL ENGINEER

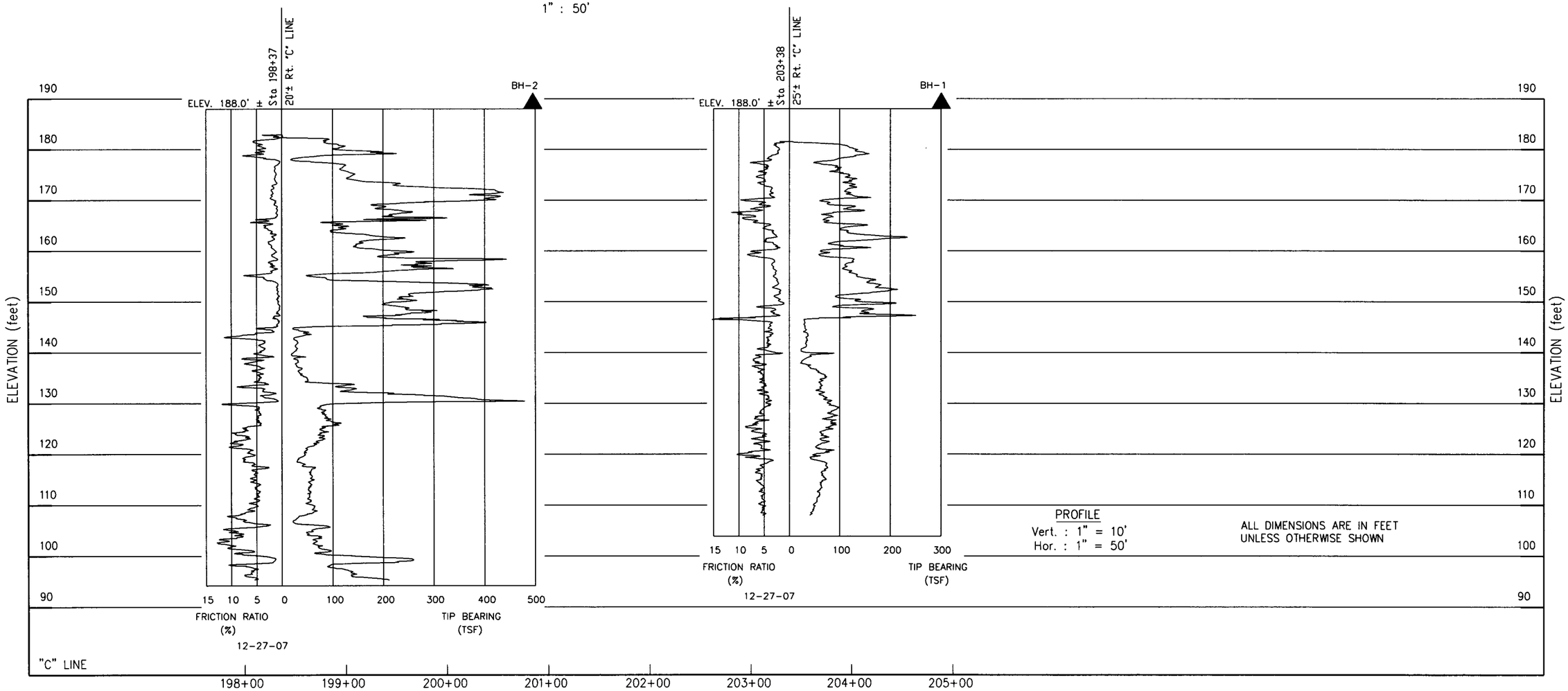
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
GARY PARIKH
No. G.E. 666
Exp 12/31/09
GEOTECHNICAL
STATE OF CALIFORNIA



PLAN
1" : 50'

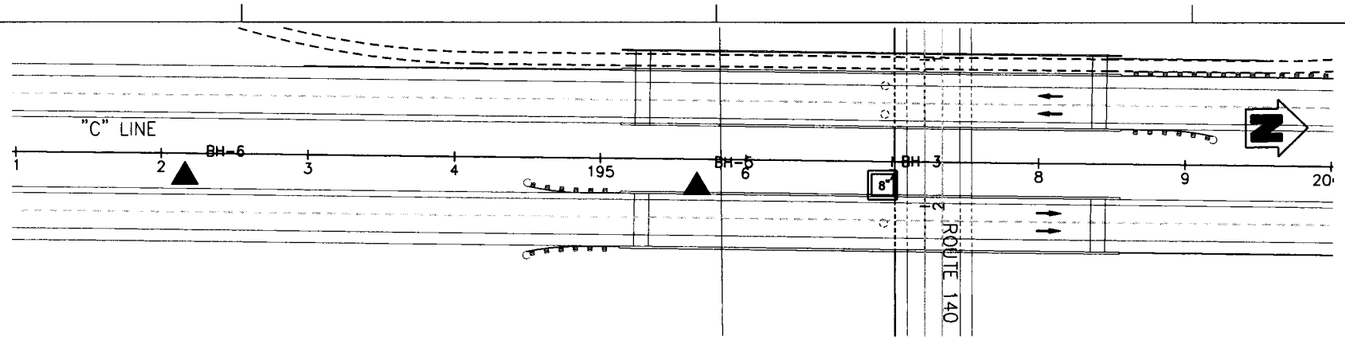


PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SHOWN

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. 39-0249L/R	CAMPUS PARKWAY OVERHEAD
FUNCTIONAL SUPERVISOR	DRAWN BY: L. TRAN	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILES	LOG OF TEST BORINGS
NAME: G. PARIKH	CHECKED BY: F. WANG	L. BHANGOO				
OGS CIVIL LOG OF TEST BORINGS SHEET	ORIGINAL SCALE IN INCHES	CAMPUS PARKWAY OVERHEAD	CU EA	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES	P.M. 12.50
			FILE => $REQUEST			SHEET OF

Jul 13, 2009 - 12:02pm S:\ACAD\207101.10\LOTB (Caltrans).dwg
tron



PLAN
1" : 50'

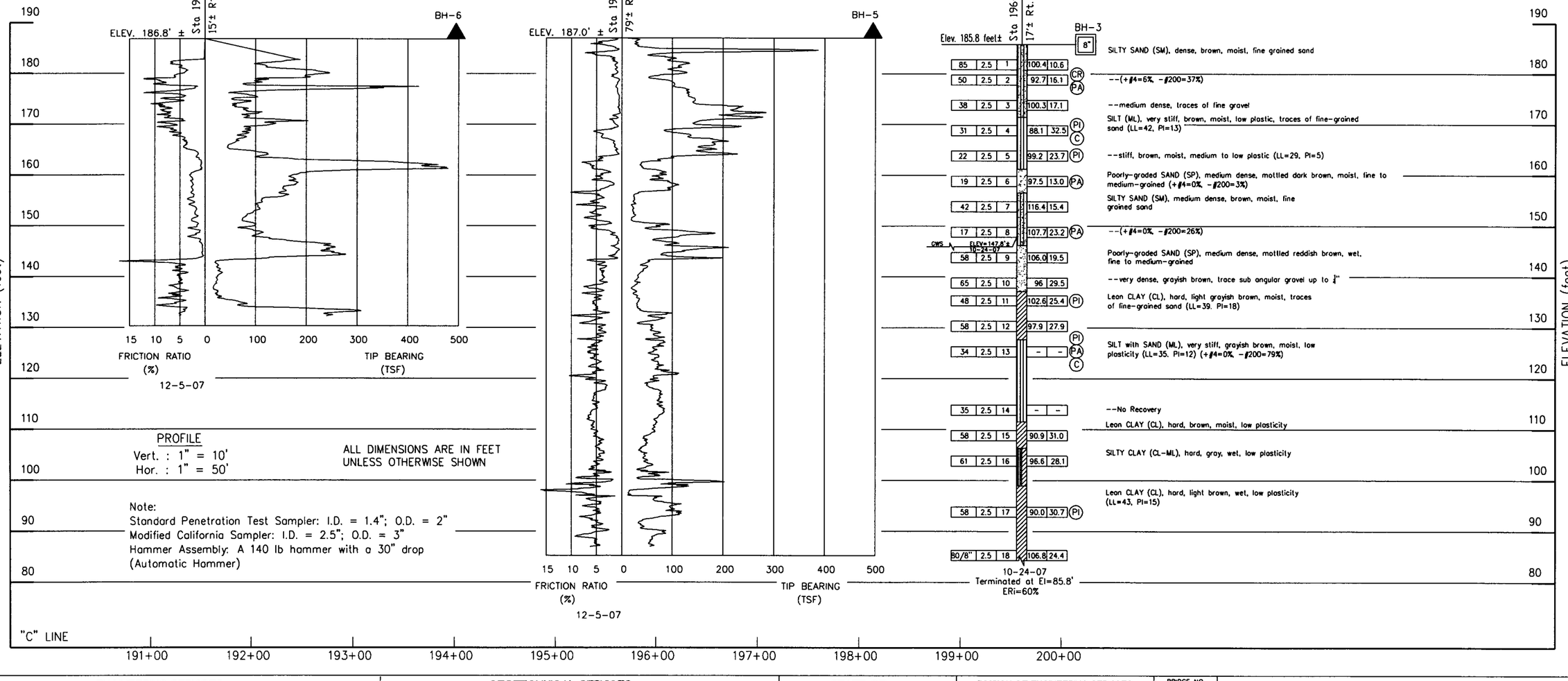
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	MER	CAMPUS			

REGISTERED GEOTECHNICAL ENGINEER

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
GARY PARIKH
No. G.E. 666
Exp 12/31/09
GEOTECHNICAL
STATE OF CALIFORNIA



PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

Note:
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
Modified California Sampler: I.D. = 2.5"; O.D. = 3"
Hammer Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	CAMPUS PARKWAY OVERHEAD
FUNCTIONAL SUPERVISOR	DRAWN BY: L. TRAN	FIELD INVESTIGATION BY:		DESIGN BRANCH	39-0249L/R	LOG OF TEST BORINGS
NAME: G. PARIKH	CHECKED BY: F. WANG	L. BHANGOO			POST MILES	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES
CAMPUS PARKWAY OVERHEAD

CU
EA

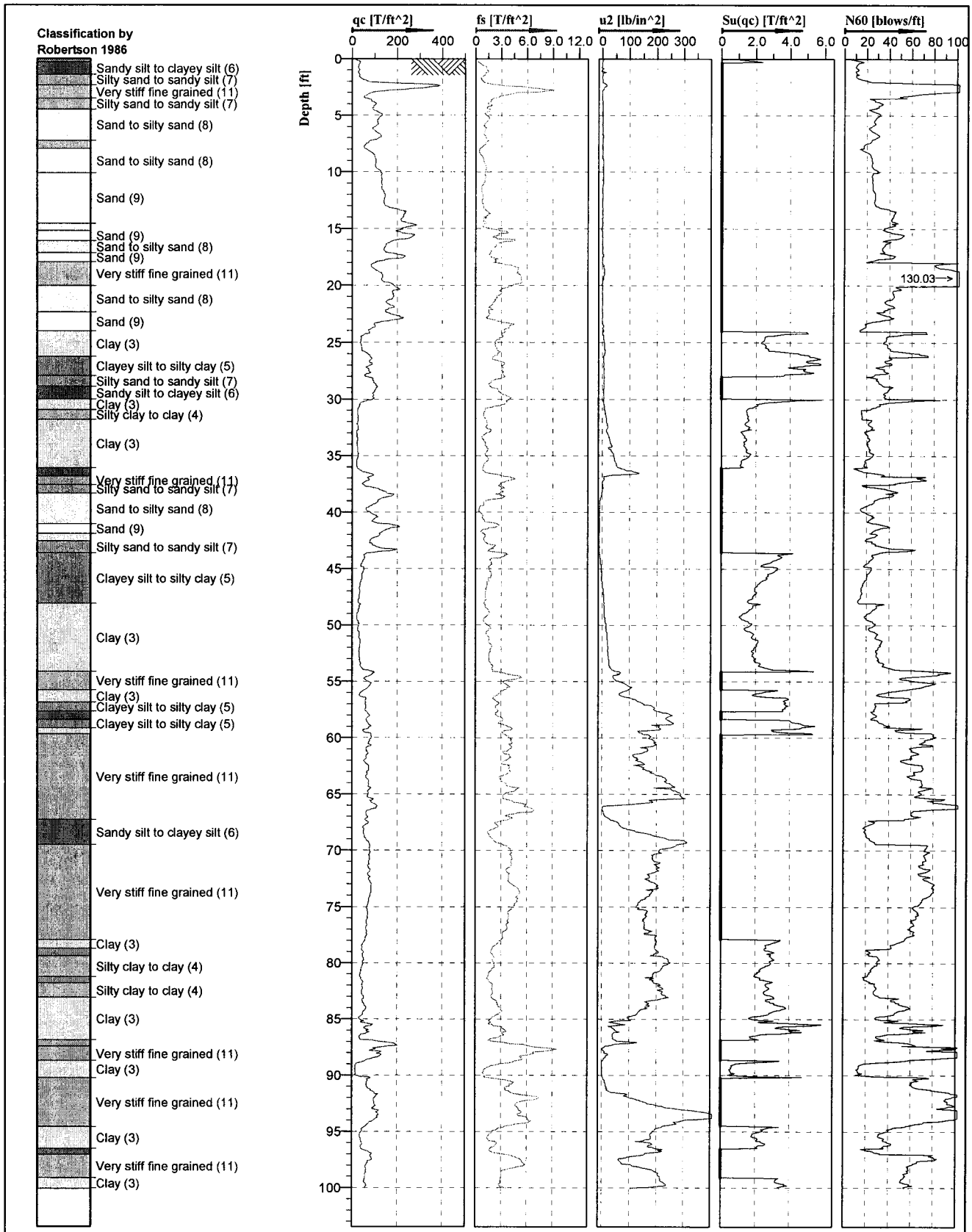
FILE => $REQUEST

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

P.M. 12.50

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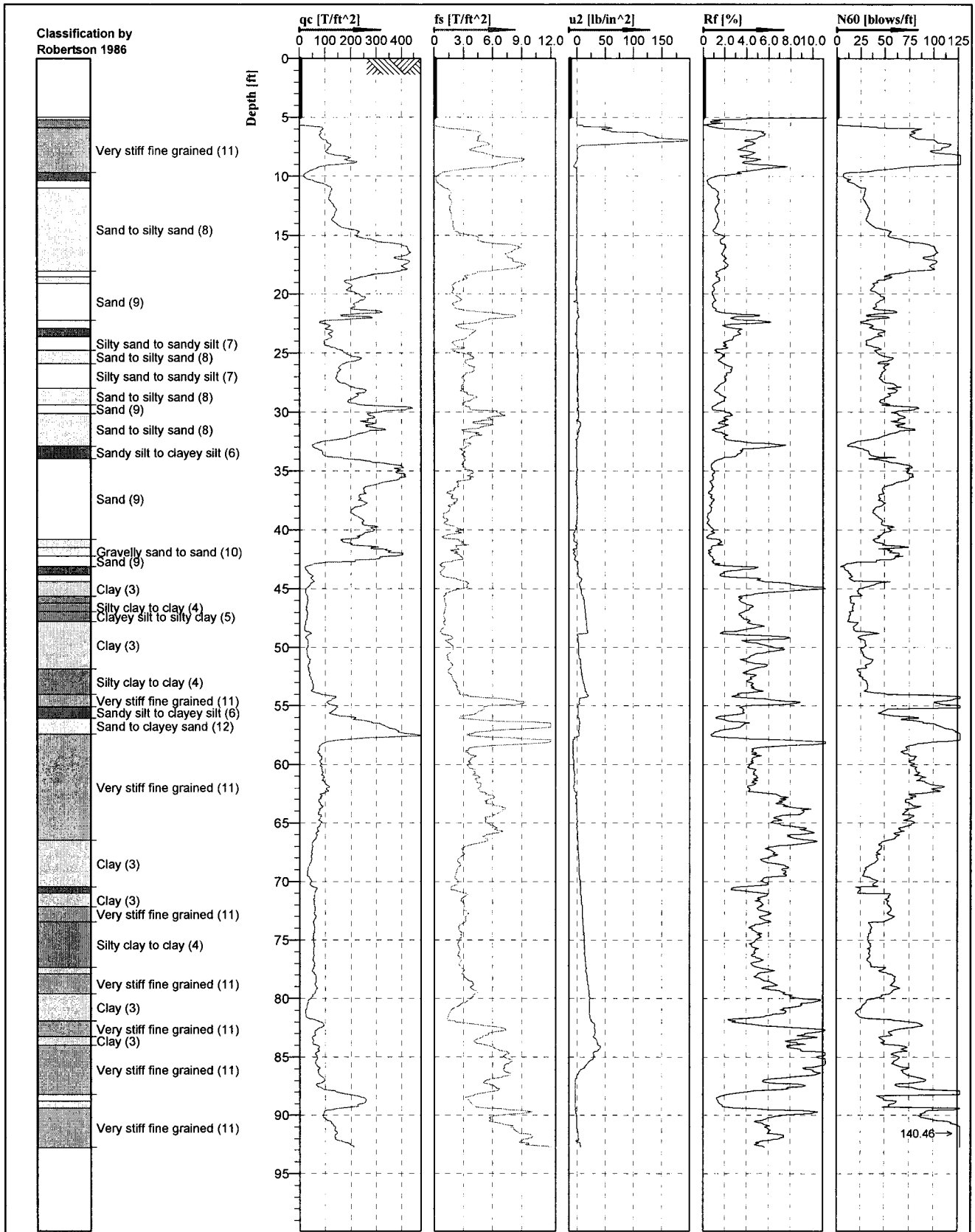
Location: Merced, California	Position:	Ground level:	Test no: BH-5
Project ID: 207101.10	Client: Parikh Consultants	Date: 12/5/2007	Scale: 1 : 145
Project: Campus Parkway Merced		Page: 1/1	Fig:
		File: BH-5.cpd	

CALIFORNIA PUSH TECHNOLOGIES INCORPORATED

U2

Cone No: 0
Tip area [cm2]: 10
Sleeve area [cm2]: 150

CAMPUS PARKWAY OVERHEAD **P.M. 12.50**



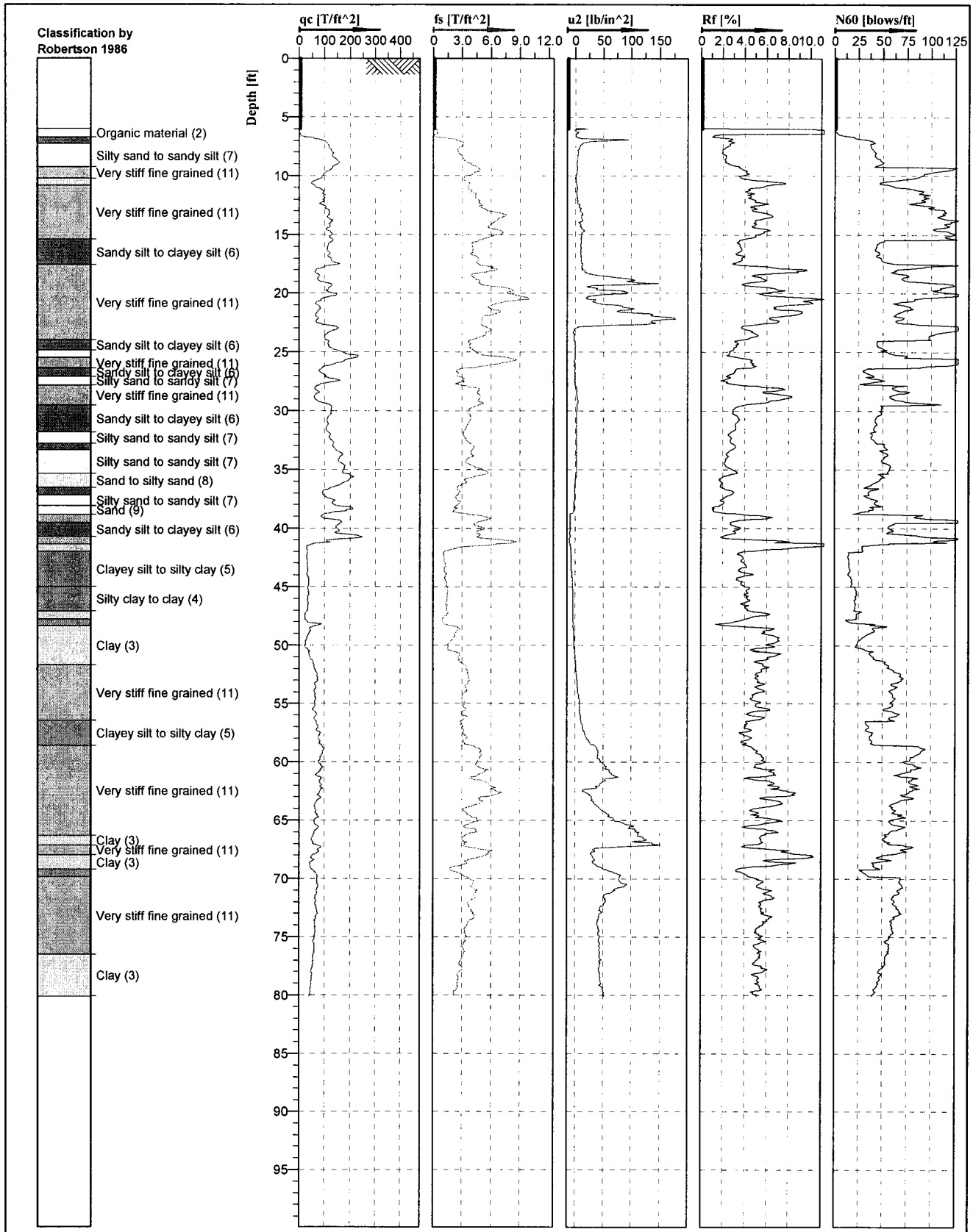
CALIFORNIA PUSH TECHNOLOGIES INCORPORATED

U2

Cone No: 3789
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Merced, California	Position:	Ground level:	Test no: BH-2
Project ID: 207101.10	Client: Parikh Consultants	Date: 12/27/2007	Scale: 1 : 140
Project: Campus Parkway Merced		Page: 1/1	Fig:
		File: BH-2.cpd	

CAMPUS PARKWAY OVERHEAD **P.M. 12.50**



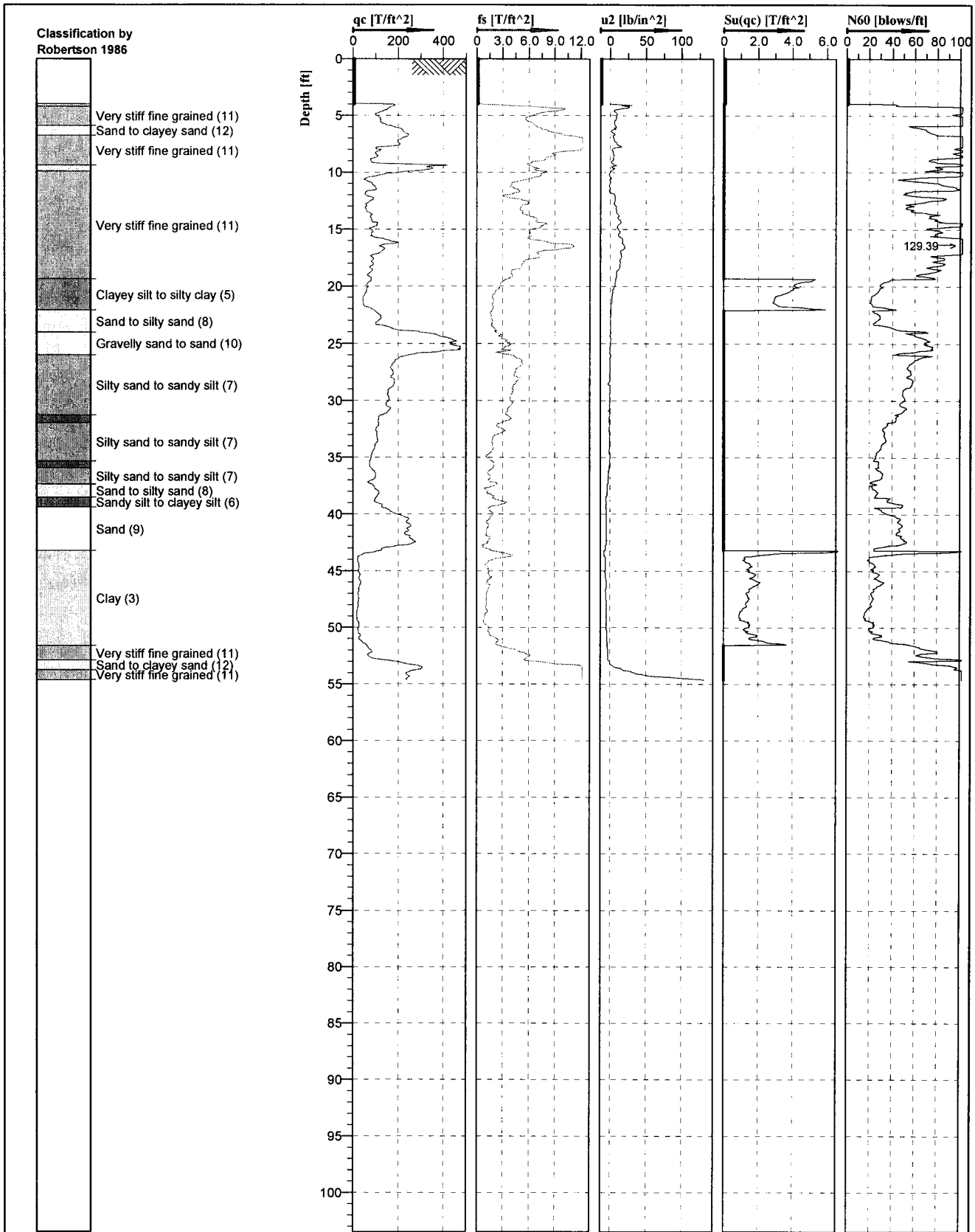
CALIFORNIA PUSH TECHNOLOGIES INCORPORATED

U2

Cone No: 3789
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Merced, California	Position:	Ground level:	Test no: BH-1
Project ID: 207101.10	Client: Parikh Consultants	Date: 12/27/2007	Scale: 1 : 140
Project: Campus Parkway Merced		Page: 1/1	Fig:
		File: BH-1.cpd	

CAMPUS PARKWAY OVERHEAD **P.M. 12.50**



CALIFORNIA PUSH TECHNOLOGIES INCORPORATED

U2

Cone No: 3789
Tip area [cm2]: 10
Sleeve area [cm2]: 150

Location: Merced, California	Position:	Ground level:	Test no: BH-6
Project ID: 207101.10	Client: Parikh Consultants	Date: 12/5/2007	Scale: 1 : 145
Project: Campus Parkway Merced		Page: 1/1	Fig:
		File: BH-6.cpd	

CAMPUS PARKWAY OVERHEAD **P.M. 12.50**

SOIL BORING LOG

BORING NO:	B1
SHEET	1 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/29/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	22'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/29/00		15' 9"

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty sand, dry, fine to course grained, light brown.		SM	No odor or discoloration.
2								
3		48"				0		
4						0		
5						0		
6	B1-5.0'	48"			Silty clay, moist, slight plasticity, moderately cemented, dark brown.	0	CL	
7						65		
8						97		
9								
10						0		
11	B1-10.0'	48"			Slightly cemented, medium grayish-brown, white caliche seams.	0		
12						0		
13						0		
14					No caliche seams.	0		
15								
16	B1-15.0'	48"			Clayey silt with sand, moist, slight plasticity, brown.	0	CL	
17						0		
18					Increasred plasticity, increased moisture.			Cracked/streched acetate tube.
19						0		
20						0		
	B1-19.5'	48"			Silt, low to moderate plasticity, moist, medium brown.			Slightly oxidized, no odor.
					Poorly graded sand,medium to coarse grained,saturated, greyish brown.			

LOGGED BY: J. Paul

GEOTRACKER ID#:T0604700219

F:\transfer\admin\forms\0G005bor\B1

SOIL BORING LOG

BORING NO:	B1
SHEET	2 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/29/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	22'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/29/00		15' 9"

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
21					Poorly graded sand,medium to coarse grained,saturated, greyish bro		SP	
					brown.			
22		18"						
23								Total Depth =22.0'
								Boring terminated at sufficient depth for investigation.
24								Boring grouted with neat cement.
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

LOGGED BY: J. Paul

GEOTRACKER ID#:T0604700219

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SOIL BORING LOG

BORING NO:	B2
SHEET	1 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	25.5'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty sand, dry, fine to coarse grained, light brown.		SM	No odor or discoloration.
2					Moist, medium brown.			
3	B2-3.0'	49"			Silty clay, moist, slight plasticity, medium brown.	0	CL	
4						0		
5								
6	B2-6.0'	48"			Slightly cemented, increased plasticity, medium brown, white caliche seams.	0		
7								
8						0		
9	B2-9.0'	48"			Slightly cemented, medium brown, white caliche seams.	0		
10					No caliche seams.			
11						0		
12								
13								
14						0		
15	B2-15.0'	48"			Clayey silt with sand, moist, slight plasticity, brown.		ML	
16						0		
17								
18								
19		48"				0		
20					Dark brown.			

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

F:\transfer\admin\forms\0G005bor\B2

SOIL BORING LOG

BORING NO:	B2
SHEET	2 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	25.5'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
20	B2-20.0'				Clayey silt, increased plasticity, slightly moist, dark brown.		ML	No odor or discoloration.
21						0		
22								
23		48"						
24								
25								
	B2-25.5'	18"				0		
26								Total Depth =25.5'
27								Boring terminated at sufficient depth for investigation.
28								Boring grouted with neat cement.
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

F:\transfer\admin\forms\0G005bor\B2b

SOIL BORING LOG

BORING NO:	B3
SHEET	1 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	21.0'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		21.0'

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty sand, dry, fine to coarse grained, light brown.		SM	No odor or discoloration.
2								
3						2		
4	B3-3.0'	48"			Silty clay, moist, slight plasticity, medium brown.		CL	
5						0		
6								
7	B3-6.0'	48"			White caliche seams.	0		
8					No caliche seams.			
9						0		
10	B3-9.0'	48"			Slightly cemented, slightly moist, medium brown.	0		
11								
12								
13						0		
14								
15						0		
16	B3-15.0'	48"			Clayey silt with sand, moist, slight plasticity, brown.		ML	
17						0		
18					Increased plasticity.			
19								
20		48"						
						0		

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

SOIL BORING LOG

BORING NO:	B3
SHEET	2 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	21.0'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		21.0'

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
	B3-20.0'	12"			Poorly graded sand, medium course grained, greyish brown.		SP	
21						0		
22								Total Depth =21.0'
								Boring terminated at sufficient depth for investigation.
23								Boring grouted with neat cement.
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

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SOIL BORING LOG

BORING NO:	B4
SHEET	1 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	21.0'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		17.8'

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
1					Silty sand, dry, fine to coarse grained, light brown.		SM	No odor or discoloration.
2								
3						2		
4	B4-3.0'	48"			Silty clay, moist, slight plasticity, medium brown.		CL	
5						0		
6								
7	B4-6.0'	48"			Increased plasticity, white caliche seams.	0		
8					No caliche seams.			
9						0		
10	B4-9.0'	48"			Slightly cemented.	0		
11								
12								
13						0		
14								
15						0		
16	B4-15.0'	48"			Clayey silt with sand, moist, slight plasticity, brown.		ML	
17						0		
18					Increased plasticity, medium brown.			
19								
20		48"						
					Poorly graded sand, medium course grained, greyish brown.	0		

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

SOIL BORING LOG

BORING NO:	B4
SHEET	2 OF 2

PROJECT NAME:	APN 061-275-14, Merced - Caltrans		
PROJECT NUMBER:	566-0G005	DATE:	8/30/00
NORTHINGS:		EASTINGS:	
DRILLING COMPANY:	Fisch Environmental		
DRILLING METHOD:	Continuous Core		
BORING DIAMETER:	2.0"	DEPTH:	25.5'

GROUNDWATER LEVELS

DATE	COMMENTS	DEPTH BGS
8/30/00		17.8'

DEPTH (FEET)	SAMPLE NO.	RECOVERY (IN)	SAMPLE INTERVAL	BLOW COUNT	DESCRIPTION	PID (PPM)	USCS	REMARKS
	B4-20.0'				Poorly graded sand, medium course grained, greyish brown.		SP	
21		12"				0		
22								Total Depth =21.0'
								Boring terminated at sufficient depth for investigation.
								Boring grouted with neat cement.
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

LOGGED BY: Paul Humphrey

GEOTRACKER ID#:T0604700219

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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	16.4/20.6	613	656

Caltrans Metric

Claudio Avila 6-4-03
CERTIFIED ENGINEERING GEOLOGIST

6-20-05
PLANS APPROVAL DATE

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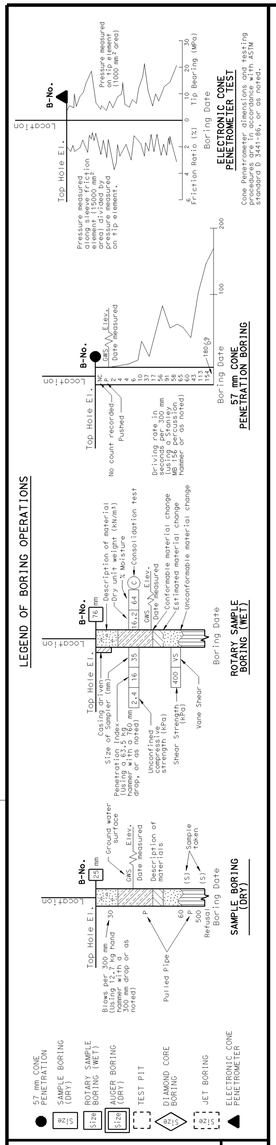
REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

To get to the Caltrans web site,go to: http://www.dot.ca.gov

CONTRACT NO: 10-363J4
TRANSFER DATE: 4-18-2008
FIELD CORRECTION DATE: 3-10-2008
CORRECTIONS TRANSFERED BY: Sp
FIELD CORRECTIONS BY: PMoua

NO AS BUILT CORRECTIONS

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · COBBLES and/or BOULDERS · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

SPT N-Value (Blows/0.3 m)	Granular	Cohesive
0-4	Very Loose	Very Soft
5-10	Loose	Soft
11-30	Medium Dense	Firm
31-50	Dense	Stiff
>50	Very Dense	Very Stiff / Hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

BENCH MARK

BM 11611 Elev. 54.15 m

¾Inch rebar

94 mm
02-1

To Fresno

C/L Rte. 99
122+00 · 122+20 · N30°13'11"W · 122+40 · 122+60

To Merced

PLAN
1:250

20 m Lt. Sta. 122+38
C/L Rte. 99

02-1
94 mm
53.87

54 m
Lean CLAY (CL), very soft, very dark, grayish brown, dark to moist, rootlets.
SILT (ML), medium dense, yellowish brown, dry to moist, weak to moderate cementation.
51 m
SILT (ML), medium dense, dark yellowish brown, moist, weaky cemented, some CLAY.
SILTY SAND (SM), medium dense, dark grayish brown, wet.
48 m
Lean CLAY with SAND (CL), very stiff, light yellowish brown, moist, wet, weak cementation, some SILT, some GRAVEL, CALICHE.
SANDY SILT (ML), medium dense, yellowish brown, moist to wet, some CLAY.
45 m
SILT with fine SAND (ML), medium dense, dark yellowish brown, moist to wet, weak cementation.
SILT with fine SAND (ML), medium dense, dark yellowish brown, moist to wet.
42 m
Well graded medium to coarse SAND with SILT (SW-SM), medium dense, dark brown, wet, some fine GRAVEL.
SILTY SAND (SM), medium dense, dark yellowish brown, moist to wet.
Poorly graded medium SAND with CLAY (SP-SC), dense, yellowish brown, wet.
39 m
Poorly graded medium SAND with SILT (SP-SM), dense, brown, wet.
Lean CLAY (CL), stiff, light yellowish brown, moist, weak cementation, blocky.
Lean CLAY (CL), very stiff, light yellowish brown, moist, weak cementation, blocky. qu=430 kPa
qu=215 kPa
36 m
qu=335 kPa
Weak to moderate cementation. qu=382 kPa
Stiff. qu=239 kPa
33 m
Lean CLAY (CL), very stiff, olive brown, moist, weak cementation, some SILT. qu=287 kPa
Lean CLAY (CL), very stiff, olive brown, moist, weak cementation.
qu=382 kPa
30 m
SANDY SILT (ML), dense, strong brown, wet, some CLAY.
Poorly graded medium SAND with SILT, medium dense, brown, wet.
27 m
SILT with SAND (ML), medium dense, strong brown, wet, some CLAY.
SILTY SAND (SM), medium dense, dark yellowish brown, wet, some CLAY.
24 m
Poorly graded medium SAND with SILT (SP-SM), dense, dark yellowish brown, wet.
SILT with SAND (ML), dense, dark yellowish brown, wet, some CLAY.

14 35 · 21 35 · 20 35 · 26 35 · 29 35 · 21 35 · 28 35 · 34 35 · 13 35 · 21 35 · 16 35 · 11 35 · 19 35 · 39 35 · 38 35 · 19 35 · 24 35 · 41 35 · 35 35

10-30-02

122+30 · 122+50 · 122+70

PROFILE
HOR. 1:200
VER. 1:100

Notes:

1. Groundwater elevation was not measured, but was observed at elev. ranging from 50.36 m to 51.94 m at the nearby proposed Mission Ave. OC (39-0228).
2. Standard Penetration test were obtained using an Automatic Dietrich hammer.
3. qu=unconfined compressive strength using a pocket penetrometer.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	W. Tang 05/03
CHECKED BY	C. Avila

FIELD INVESTIGATION BY: J. Kaump

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES
STRUCTURE DESIGN 6

CU 10
EA 363111

BRIDGE NO. 39-0229L/R
KILOMETER POST 18.36

MILES CREEK OVERFLOW NO. 2
LOG OF TEST BORINGS 1 OF 2

OGS GEOLOGIST LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 6-4-03 · 11-23-04

SHEET 15 OF 16

FILE => 39-2291r_zlotb1.dgn

USERNAME => dpotto DATE PLOTTED => 30-APR-2008 TIME PLOTTED => 13:48

BR39-0143

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DIST.	COUNTY	ROUTE	POST MILES — TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	5999	28.2/26.6/11.4	89	95

Gabriel G. Reynolds #165
ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER
DATE APPROVED February 18, 1986

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
10	Mer	99	16.4/20.6	614	656

Claudio Avila — 6-4-03
CERTIFIED ENGINEERING GEOLOGIST — DATE

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

MILES CREEK OVERFLOW NO. 2

LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 10
EA: 363101

BRIDGE No.	
39-0229L/R	
Sheet	of
16	16

Revisions made to this Log of Test Borings from the original 1984 Log of Test Borings are the addition of the following table and notes:

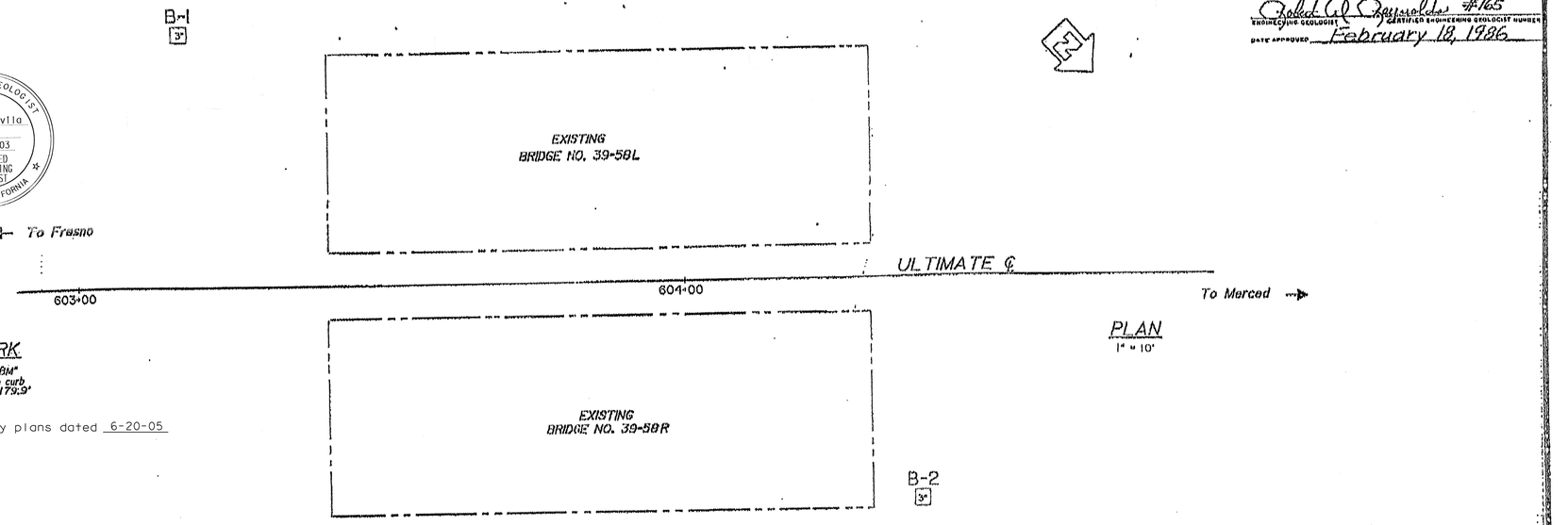
Boring	Station	Offset from C/L Rte. 99
B-1	119+25	155 m Lt
B-2	119+70	138 m Lt

Notes:

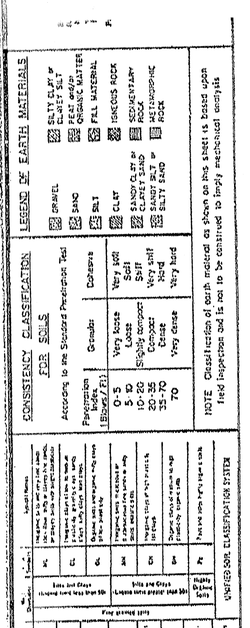
1. See the General Plan and/or Foundation Plan for Metric Stationing.
2. Structure Design produced the data presented in the table above. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

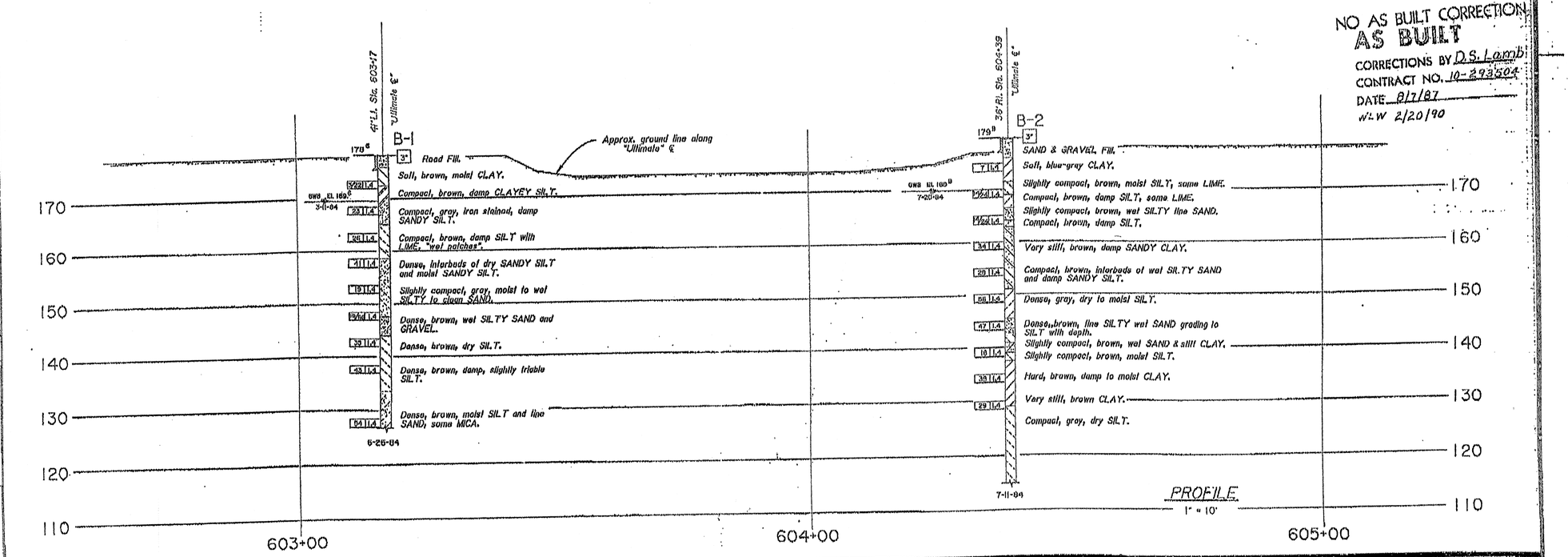
BENCH MARK
BM: Painted mark "TBM" @ N end of Ely Bridge curb Br. # 39-58R Elev. 179.9'

To accompany plans dated 6-20-05



PLAN
1" = 10'





PROFILE
1" = 10'

NO AS BUILT CORRECTION
AS BUILT
CORRECTIONS BY D.S. Lamb
CONTRACT NO. 10-293504
DATE 8/17/87
W.L.W 2/20/90

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	IRMA HOWELL 9/84	Approved Documents Submitted by	CHARGE UNIT	EXPEND. AUTHOR.	SPEC DESIGN.
CHECKED BY	R. Hagger	PROJECT GEOLOGIST — REGISTERED CIVIL ENGINEER			

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN 3
Dan Landy 19,815
PROJECT ENGINEER — REGISTERED CIVIL ENGINEER

CU 10
WO 293501

BRIDGE NO.	
39-58	
POST MILE	
11.4	

MILES CREEK OVERFLOW (WIDEN)

LOG OF TEST BORINGS

Divergent prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET	OF
7	8

AS BUILT PLANS
Contract No. 10-293504
Date Completed 9-21-87
Document No.

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 7-2-90 — SIGNATURE — TITLE: SUPERVISOR OF MICROFILM SERVICES

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BR39-0143

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DIST.	COUNTY	ROUTE	POST MILES — TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	5999	28.2/26.6/11.4	89	95

Gabriel G. Reynolds #165
ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER
DATE APPROVED February 18, 1986

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
10	Mer	99	16.4/20.6	614	656

Claudio Avila — 6-4-03
CERTIFIED ENGINEERING GEOLOGIST — DATE

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

MILES CREEK OVERFLOW NO. 2

LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 10
EA: 363101

BRIDGE No.	
39-0229L/R	
Sheet	of
16	16

Revisions made to this Log of Test Borings from the original 1984 Log of Test Borings are the addition of the following table and notes:

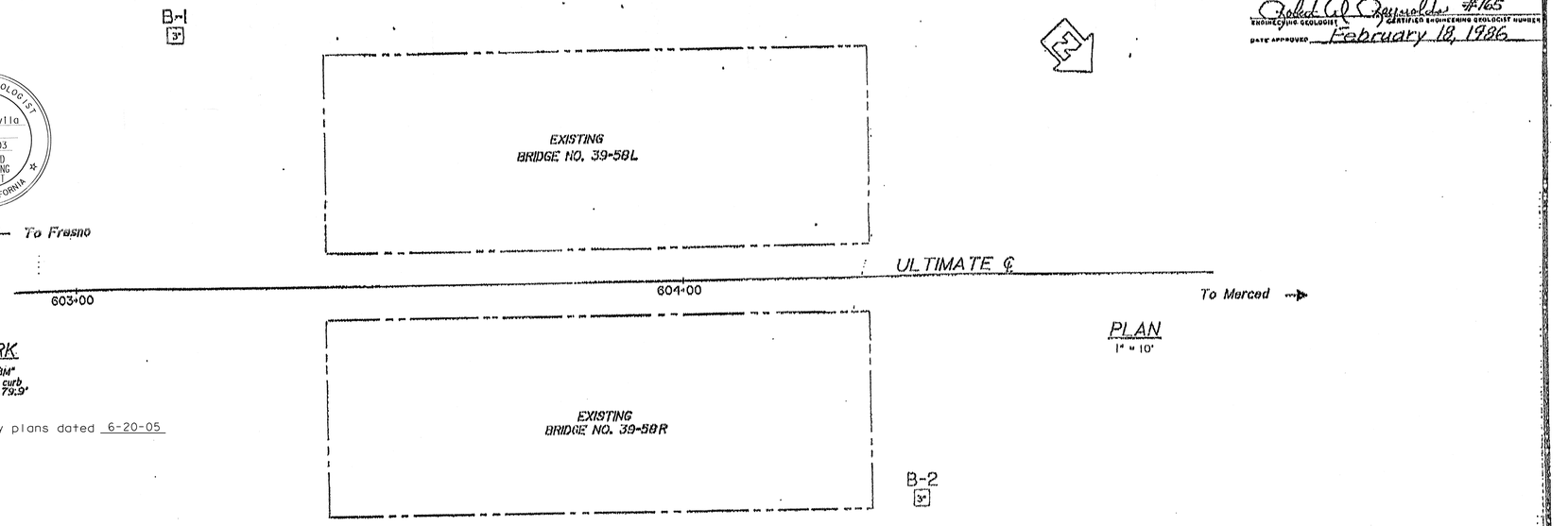
Boring	Station	Offset from C/L Rte. 99
B-1	119+25	155 m Lt
B-2	119+70	138 m Lt

Notes:

1. See the General Plan and/or Foundation Plan for Metric Stationing.
2. Structure Design produced the data presented in the table above. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

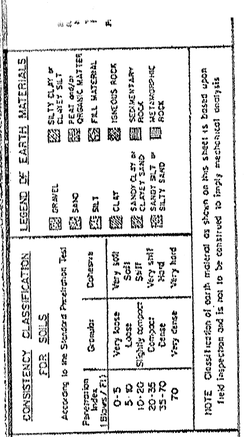
BENCH MARK
BM: Painted mark "TBM" @ N end of Ely Bridge curb Br. # 39-58R Elev. 179.9'

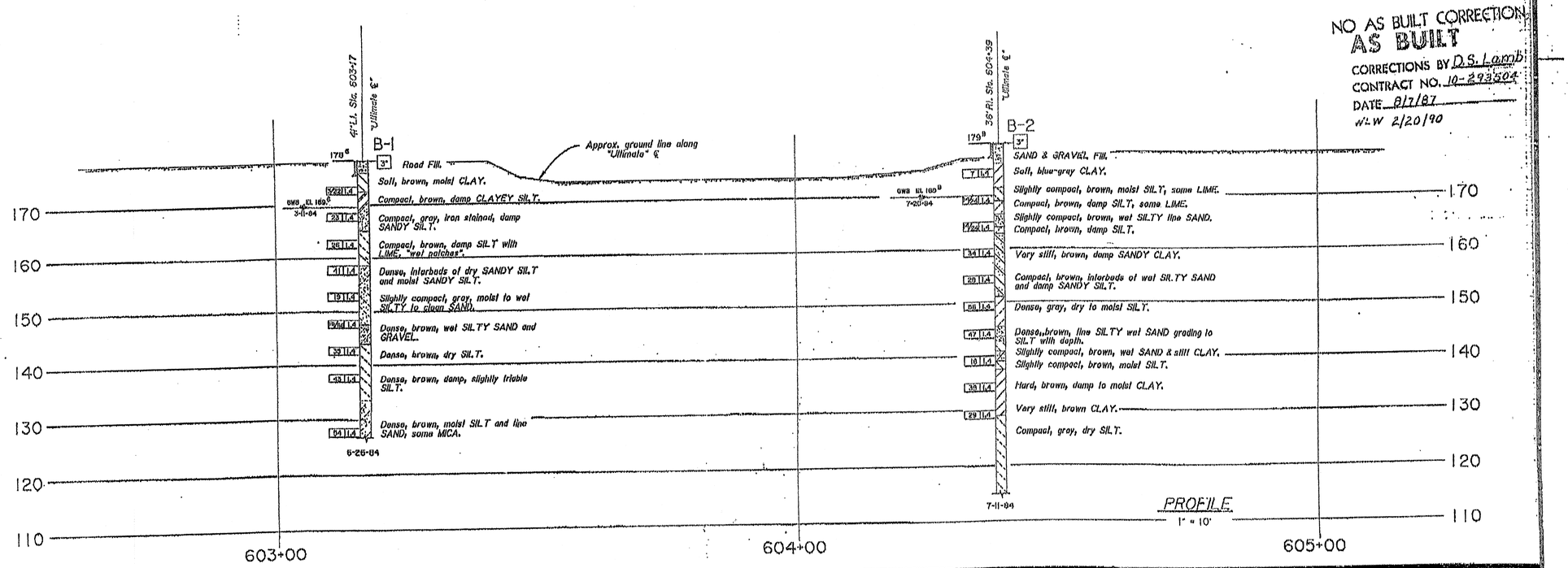
To accompany plans dated 6-20-05



PLAN
1" = 10'

NO AS BUILT CORRECTION
AS BUILT
CORRECTIONS BY D.S. Lamb
CONTRACT NO. 10-293504
DATE 8/17/87
W.L.W 2/20/90





PROFILE
1" = 10'

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	IRMA HOWELL 9184	Approved Recommended for Issue	22 DEC 86	CHARGE UNIT	EXPEND. AUTHOR.
CHECKED BY	R. Hagger	PROJECT GEOLOGIST	ENGINEER		SPEC. DESIGN.

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN 3
Dan Landy 19,815
PROJECT ENGINEER — REGISTERED CIVIL ENGR. — DATE

CU 10
WO 293501

BRIDGE NO.	
39-58	
POST MILE	
11.4	

MILES CREEK OVERFLOW (WIDEN)

LOG OF TEST BORINGS

Discrepant prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)
11/25 — 10/1/85

SHEET	OF
7	8

AS BUILT PLANS
Contract No. 10-293504
Date Completed 9-21-87
Document No.

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 3-2-90 — SIGNATURE — SUPERVISOR OF MICROFILM SERVICES

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BR39-0057

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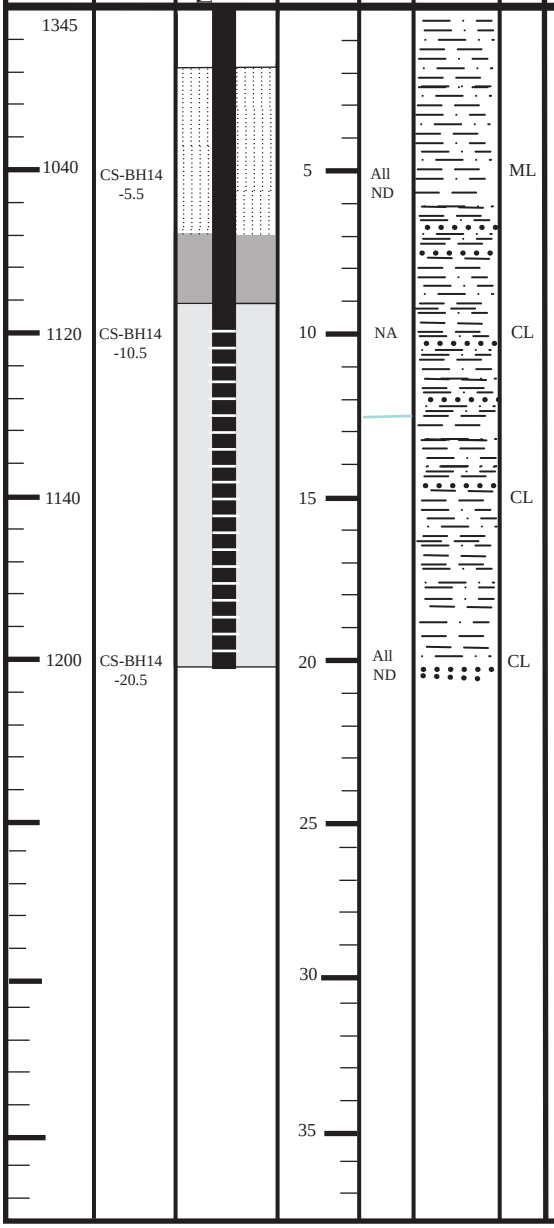
Boring No. CS-BH14 (MW4)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/18/2006 — Finish Date/Time 03/18/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	03/18/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 13.0' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, slight petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582227.46 Northing (feet) 1919248.55
Elevation of Wellhead: 184.31 feet msl (NAVD88).

D:Environmental\Cuadros\SoilBorings\CS-BH14(MW4).ai

GEOTRACKER ID#:T0604784170

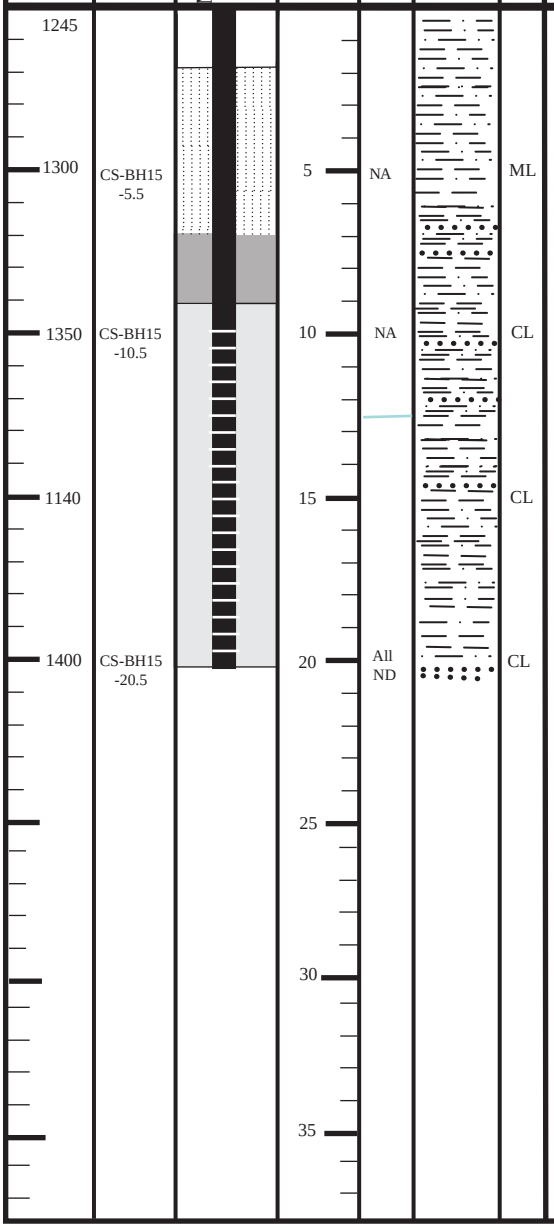
Boring No. CS-BH15 (MW5)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/18/2006 — Finish Date/Time 03/18/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	03/18/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 13.0' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582225.24 Northing (feet) 1919314.03
Elevation of Wellhead: 184.02 feet msl (NAVD88).

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GEOTRACKER ID#:T0604784170

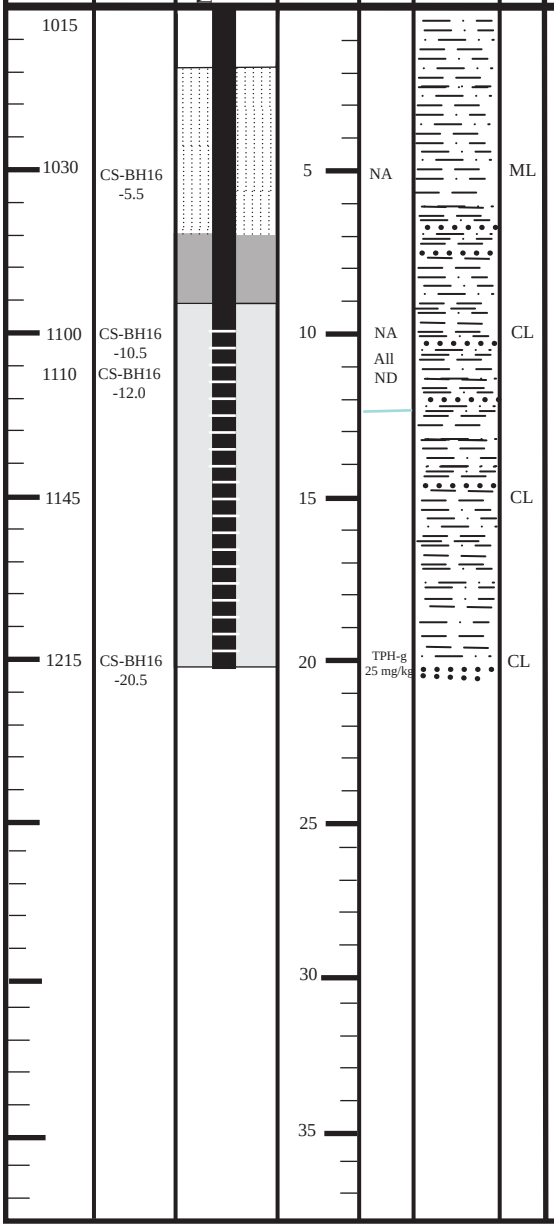
Boring No. CS-BH16 (MW6)

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	03/19/2006 — Finish Date/Time 03/19/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	185 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	12.5' bgs		
Date - Time	03/19/2006		
Depth of Hole (ft)	21.0' bgs		



Soil Description

CLAYEY SILT: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 12.5' bgs.

SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SANDY CLAY: Dark brown color, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 20 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582136.16 Northing (feet) 1919339.04
Elevation of Wellhead: 183.49 feet msl (NAVD88).

D:Environmental\Cuadros\SoilBorings\CS-BH16(MW6).ai

GEOTRACKER ID#:T0604784170

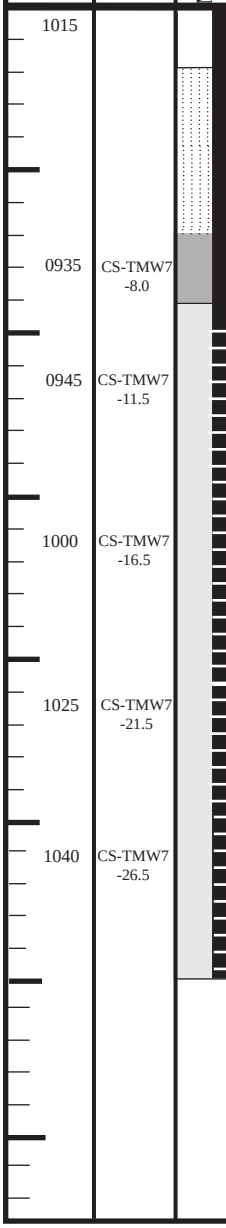
Boring No. CS-MW7

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	12.5' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	30.5' bgs		



Soil Description

SM — CLAYEY SAND: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

CL — SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 12.5' bgs.

CL — SANDY CLAY: Gray green color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

CL — SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).

CL — SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582040.33 Northing (feet) 1919268.57
Elevation of Wellhead: 179.67 feet msl (NAVD88).

D:Environmental\Cuadros\SoilBorings\CS-MW7.ai

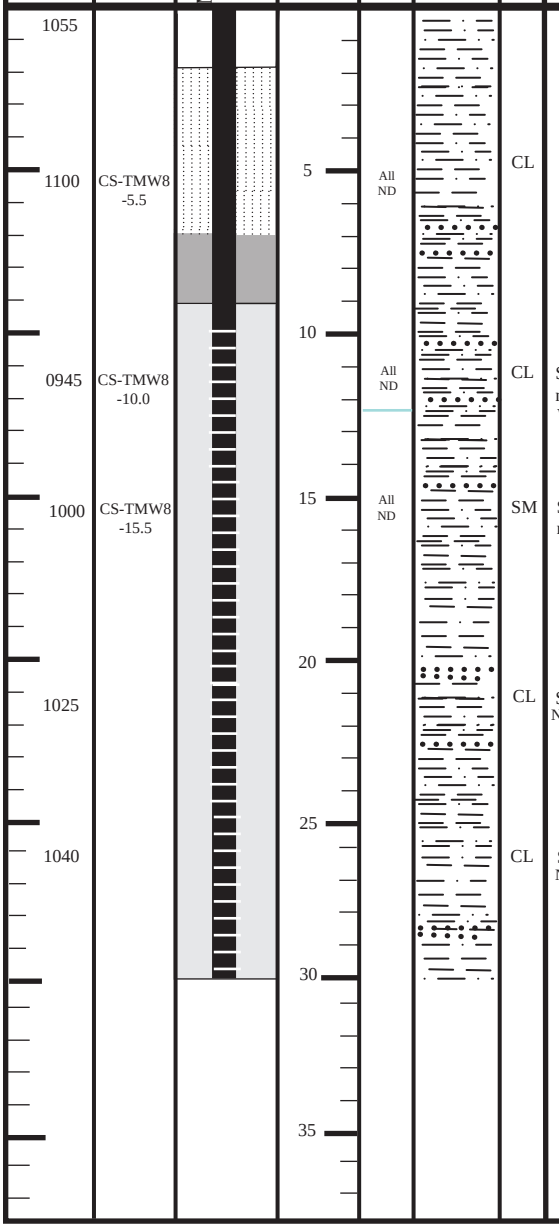
GEOTRACKER ID#:T0604784170

Boring No. CS-MW8

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	13.0' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	30.0' bgs		



Soil Group Symbol (USCS)	Soil Description
CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Water Table at 12.5' bgs.
SM	SILTY SAND: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID). No sample recovery
CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID). No sample recovery

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6582147.38 Northing (feet) 1919160.66
Elevation of Wellhead: 179.20 feet msl (NAVD88).

D:Environmental\Cuadros\SoilBorings\CS-MW8.ai

GEOTRACKER ID#:T0604784170

Boring No. CS-MW9

SOIL BORING REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	05/17/2006 — Finish Date/Time 05/17/2006
Drilled By	D&S Dragline Service Inc.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 8"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	13.0' bgs		
Date - Time	05/17/2006		
Depth of Hole (ft)	20.0' bgs		

Time	Sampled Depth Interval and Number	Monitoring Well Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1000							
1005			5	All ND		CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
			10				
1005	CS-TMW9 -10.0			All ND		CL	SANDY CLAY: Gray green color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Water Table at 12.5' bgs.
1025	CS-TMW9 -15.5		15	All ND		SM	SILTY SAND: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1045	CS-TMW9 -20.5		20	All ND		CL	SANDY CLAY: Dark brown color, wet, no petroleum oder (0 ppmv on PID).
			25				
			30				
			35				

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 20 to 9 feet bgs; locking cap on top of case. Neat cement seal from 7 to 3 feet bgs. Cement setting for surface pipe/box. Surface pipe to 3' above ground surface and painted yellow.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD83
Easting (feet) 6581984.63 Northing (feet) 1919325.84
Elevation of Wellhead: 179.43 feet msl (NAVD88).

D:Environmental\Cuadros\SoilBorings\CS-MW9.ai

GEOTRACKER ID#:T0604784170

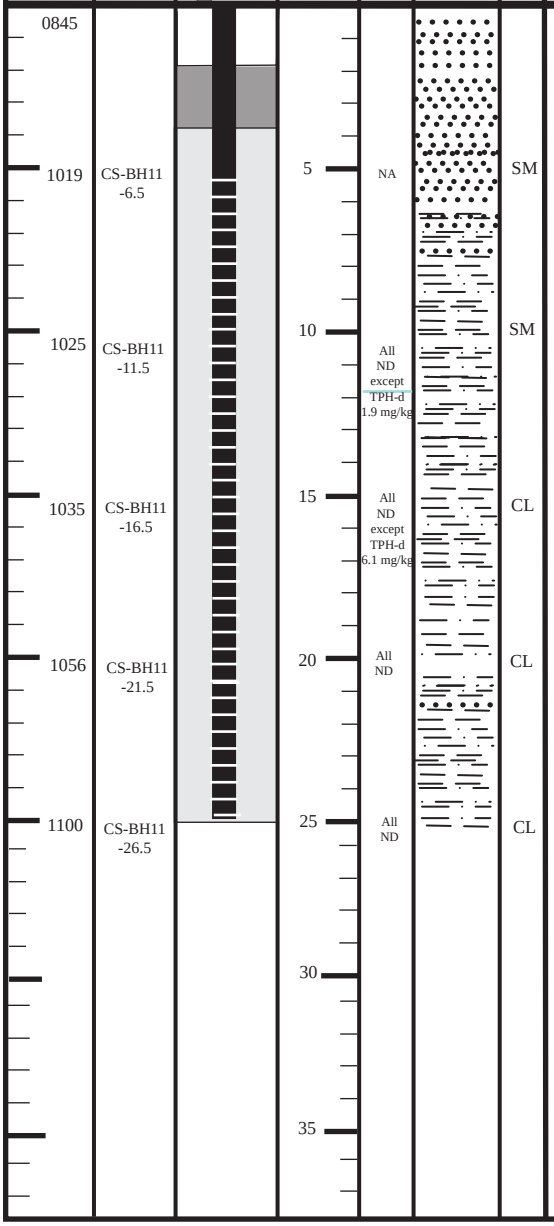
Boring No. CS-BH11/MW11

MONITORING WELL REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	09/04/2008 — Finish Date/Time 09/04/2008
Drilled By	Earthtec Ltd.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	10.5' bgs		
Date - Time	09/04/2008		
Depth of Hole (ft)	25.0' bgs		



Soil Description

SILTY SAND: Brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY SAND: Brown color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 10.5' bgs.

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 5 feet below ground surface; bentonite chip seal from 2 to 4 feet below ground surface; screen set from 5 to 25 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 4 to 25 feet bgs; locking cap on top of case. Neat cement seal from 4 to 2 feet bgs. Cement setting for surface Traffic box.

Boring No. CS-BH12/MW12

MONITORING WELL REPORT

Project	Cuadros Site	Project Number	N/A
Location	1456 S. Hwy 99, Merced	Start Date/Time	09/04/2008 — Finish Date/Time 09/04/2008
Drilled By	Earthtec Ltd.	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Auger	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	180 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	10.5' bgs		
Date - Time	09/04/2008		
Depth of Hole (ft)	25.0' bgs		



Soil Description

SILTY SAND: Brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY SAND: Brown color, moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

Water Table at 10.5' bgs.

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

SILTY CLAY: Dark brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 5 feet below ground surface; bentonite chip seal from 2 to 4 feet below ground surface; screen set from 5 to 25 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 4 to 25 feet bgs; locking cap on top of case. Neat cement seal from 4 to 2 feet bgs. Cement setting for surface Traffic box.

GEOTRACKER ID#:T0604784170

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	59,99	28.2;26/11.4	73	95

Robert L. J. Reynolds #165
REGISTERED ENGINEER — CERTIFIED ENGINEERING GEOLOGIST (CIRCLE ONE)
DATE APPROVED February 18, 1986

TO FRESNO

EXISTING BRIDGE No. 39-07L

℄ RTE 99

572+00 +50 573+00 +50 574+00

TO MERCED

EXISTING BRIDGE No. 39-07 R

BENCH MARK

BM#1 Elev. 181.38
Paint spot marked "30" on west curb near ℄ Bridge # 39-07L

BM# E-938 Elev 180±?
Brass cap @ west end of north curb. Bridge #39-57R (PM 11.0)

PLAN
1" = 10'

B-2

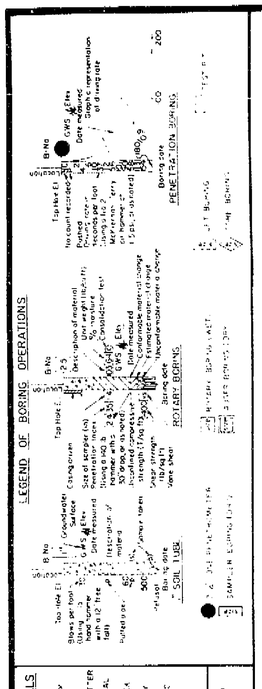
3" B-1

MILES CREEK

NO AS BUILT CORRECTION

AS BUILT
CORRECTIONS BY D.S. Lamb
CONTRACT NO. 10-293504
DATE 10-12-87
WLW 2/26/90

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SILTY CLAY or CLAYEY SILT · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · PEAT and/or ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

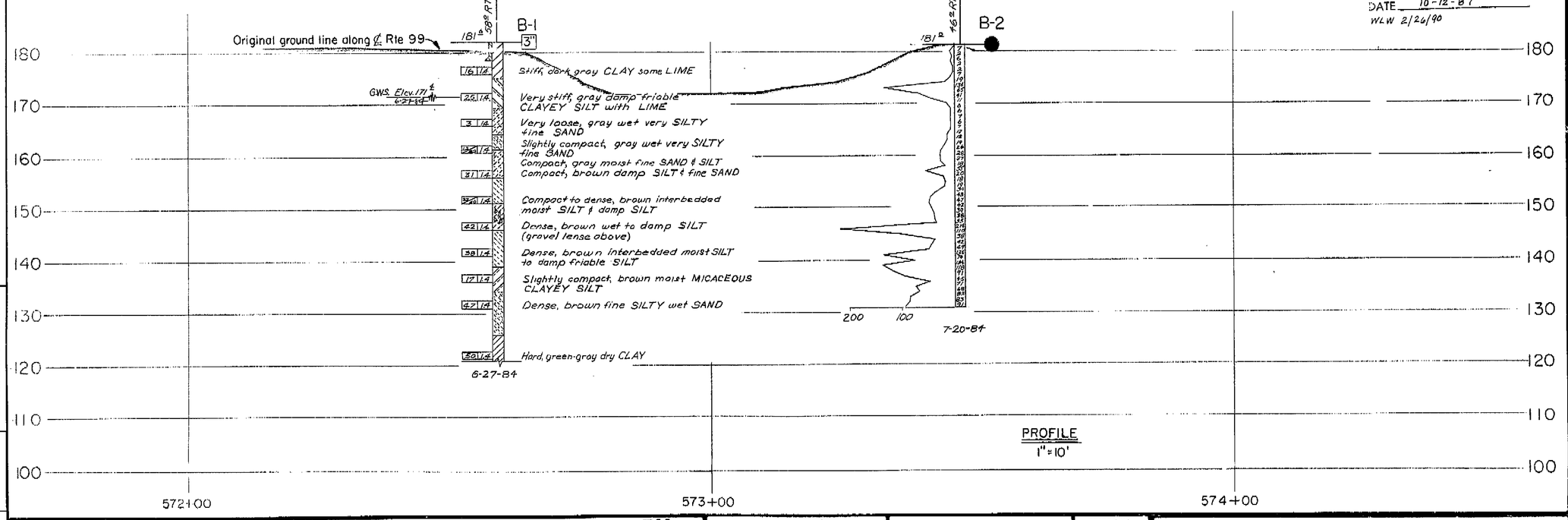
Penetration (Blows/Ft.)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Stiff
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analyses

UNIFIED SOIL CLASSIFICATION SYSTEM

Soil Symbol	Field Name	Laboratory Classification
GW	Well graded gravels, gravel-sand mixtures, little or no fines	Coarse grained soils: More than half of coarse fraction is larger than No. 4 sieve size, but smaller than 3"
GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	
GM	Silty gravels, gravel-sand-silt mixtures	
GC	Clayey gravels, gravel-sand-clay mixtures	
SW	Well graded sands, gravelly sands, little or no fines	Coarse grained soils: More than half of material is larger than No. 200 sieve size
SP	Poorly graded sands, gravelly sands, little or no fines	
SM	Silty sands, sand-silt mixtures	
SC	Clayey sands, sand-clay mixtures	
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	Fine grained soils: More than half of material is smaller than No. 200 sieve size. Silts and Clays: Liquid limit less than 50
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
OL	Organic silts and organic silty clays of low plasticity	
MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	Silts and Clays: Liquid limit greater than 50
CH	Inorganic clays of high plasticity, fat clays	
OH	Organic clays of medium to high plasticity, organic silts	
Pt	Peat and other highly organic soils	Highly Organic Soils

PROFILE
1" = 10'



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY						
DRAWN BY	J.DONALDSON 8/84	Approved Recommended By		CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN.
CHECKED BY	R. Hagar	R. F. Hagar 778 PROJECT GEOLOGIST CEG NO	271 ENGINEERING GEOLOGIST CEG NO			

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN
Jim Leahy 19,815
PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

cu 10200
wo 293501

BRIDGE NO. 39-07
POST MILE 10.83

MILES CREEK BRIDGE (WIDEN)
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

Dates and prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET	OF
7	8

13

AS BUILT PLANS
Contract No. 10-293504
Date Completed 7-2-87
Document No.

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 7-12-90 SIGNATURE Donald Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION – MICROFILM

BR39-0007R/L

ClibPDF - www.fastio.com

CORRECTIONS TRANSFERED BY: SP
FIELD CORRECTIONS BY: P.Mouq

TRANSFER DATE: 4-15-2008
FIELD CORRECTION DATE: 6-11-2007

CONTRACT NO: 10-363104

NO AS BUILT CORRECTIONS

BENCH MARK

BM 1420 Elev. 55.07 m
FND Rod in Monument Well

⟸ To Fresno

C/L Rte. 99 N44°29'28"W

110+00 +20 +40 +60 +80

To Merced ⟹

PLAN
1:400

02-1
94 mm

29.5 m Rt. Sta. 110+54
C/L Rte. 99

53.92

02-1
94 mm

53 m		Lean CLAY (CL), stiff, very dark grayish brown, moist, rootlets. qu ≥ 431 kPa, Su > 48 kPa
	15 35	SANDY lean CLAY (CL), stiff, grayish brown, moist. Qu =192 kPa
50 m	11 35	Lean CLAY with SAND (CL), stiff, grayish brown, wet. Qu = 287 kPa
	18 35	SILT with SAND (ML), medium dense, yellowish brown, moist, caliche.
		SANDY SILT (ML), medium dense, grayish brown, moist, coarse SAND to fine GRAVEL.
		SILTY SAND (SM), medium dense, strong brown, moist to wet, some fine GRAVEL layers, weak to moderate cementation.
47 m	20 35	SILT (ML), medium dense, light yellowish brown, moist, caliche, weak to moderate cementation.
		Lean CLAY with SAND (CL), firm, light yellowish brown, moist to wet.
		25 mm thick layer of very soft CLAY at elev. 46.720m. Su= 38 kPa
	20 35	SANDY SILT (ML), medium dense, light yellowish brown, wet.
		Well graded fine to coarse SAND with SILT (SW-SM), dense, dark yellowish brown, wet.
44 m	47 35	SANDY SILT (ML), dense, yellowish brown, moist to wet, weak to moderate cementation.
	12 35	SANDY fat CLAY (CH), stiff, yellowish brown, moist to wet, weak to moderate cementation. Qu= 240 -287 kPa
		Qu= 192 -383 kPa
41 m	21 35	SILTY fine SAND (SM), medium dense, dark yellowish brown, moist to wet.
	14 35	Fat CLAY with SAND (CH), very stiff, light olive brown, moist to wet.
		Qu= 263 kPa
		Moderate cementation. qu = 287 - 431 kPa, Su = 62 kPa
38 m	21 35	CLAYEY SAND (SC), medium dense, light yellowish brown, moist to wet, moderate cementation. Qu = 192 kPa
	21 35	
		Lean CLAY (CL), very stiff, light yellowish brown, moist to wet, moderate cementation. Qu= 287 - 431 kPa, Su = 67 kPa
35 m	15 35	Qu= 311 kPa
		Qu= 287 kPa, Su = 43 kPa
	15 35	Qu= 353 kPa
32 m	6 35	Qu= 96 kPa
	27 35	Poorly graded fine to medium SAND with SILT, medium dense, grayish brown, moist to wet.
29 m	24 35	Well graded fine to coarse SAND (SW), medium dense, yellowish brown, wet, some fine GRAVEL.
		SANDY lean CLAY (CL), soft, grayish brown, wet.
	24 35	Poorly graded medium SAND with SILT (SP-SM), medium dense, dark grayish brown, wet.
26 m	39 35	SILT (ML), dense, grayish brown, moist to wet, some CLAY.
	40 35	
		Poorly graded fine to medium SAND with SILT (SP-SM), dense, dark grayish brown, wet.
23 m	45 35	SILTY SAND (SM), dense, grayish brown, wet.

10-24-02

110+50 110+60 110+70 110+80 110+90

PROFILE
HOR. 1:100
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Notes:

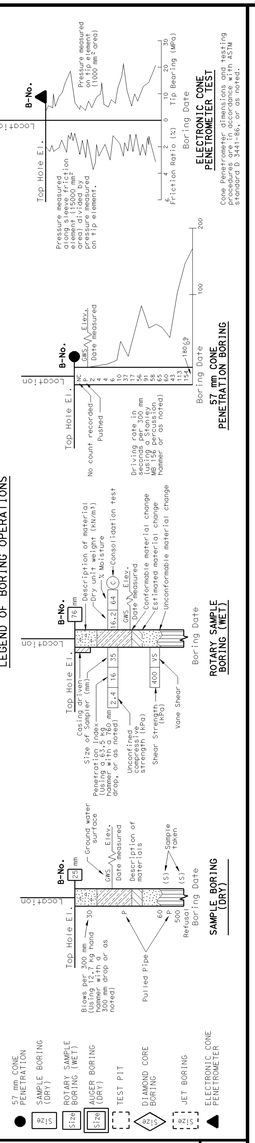
1. Groundwater elevation was not measured. However, groundwater was measured at an elev. 51.70 m at the nearby proposed Owen Creek Bridge (39-0006)

2. Standard Penetration test were obtained using an Automatic Dietrich hammer.

3. qu=unconfined compressive strength using a pocket penetrometer.

4. Su=undrained shear strength using a torvane.

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · COBBLES and/or BOULDERS · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

SPT N-Value (Blows/0.3 m)	Granular	Cohesive
0-4	Very Loose	Very Soft
5-10	Loose	Soft
11-30	Medium Dense	Firm
31-50	Dense	Stiff
>50	Very Dense	Very stiff
		Hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	16.4/20.6	547	656

Caltrans Metric

Claudio Avila 6-4-03
CERTIFIED ENGINEERING GEOLOGIST

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

6-20-05
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site,go to: http://www.dot.ca.gov

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	F. Nguyen 5/03
CHECKED BY	C. Avila

FIELD INVESTIGATION BY: J. Kaump

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES
STRUCTURE DESIGN 6

BRIDGE NO. 39-0007R/L
KILOMETER POST 17.43

MILES CREEK BRIDGE
LOG OF TEST BORINGS 1 of 2

OGS GEOLOGIST LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 10
EA 363111

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 6-4-03 | 11-18-04

SHEET 14 OF 15

FILE => 39_0071r_z1otb1.dgn

USERNAME = ? dpoto DATE PLOTTED => 30-APR-2008 TIME PLOTTED => 13:56

BR39-0007R/L

ClibPDF - www.fastio.com

DIST.	COUNTY	ROUTE	POST MILES — TOTAL PROJECT
10	MER	99	

ENGINEERING DATA — CONSTRUCTION CONTROL

DATE APPROVED: _____

TO FRESNO

EXISTING BRIDGE No. 39-07L

℄ PTE 99

572+00 +50 573+00 +50 574+00

EXISTING BRIDGE No. 39-07 R

TO MERCED

PLAN
1" = 10'

B-2

3" B-1

MILES CREEK

BENCH MARK

BM#L Elev. 181.28
Paint spot marked "20" on west curb near ℄ Bridge #39-07L

BM#E-938 Elev. 180.92
Brass cap @ west end of north curb, Bridge #39-57R (DM 11.0)

Original ground line along ℄ Rte 99

B-1 3"

B-2

℄ RTE 99

Stiff, dark gray CLAY some LIME

GWS Elev. 171 ± 6-27-84

Very stiff, gray damp friable CLAYEY SILT with LIME

Very loose, gray wet very SILTY fine SAND

Slightly compact, gray wet very SILTY fine SAND

Compact, gray moist fine SAND & SILT

Compact, brown damp SILT & fine SAND

44'

Compact to dense, brown interbedded moist SILT & damp SILT

91'

Dense, brown wet to damp SILT (gravel lense above)

Dense, brown interbedded moist SILT to damp friable SILT

15' SAND

Slightly compact, brown moist MICACEOUS CLAYEY SILT

Dense, brown fine SILTY wet SAND

Hard, green-gray dry CLAY

6-27-84

7-20-84

PROFILE
1" = 10'

180 170 160 150 140 130 120 110 100

572+00 573+00 574+00

To accompany plans dated 6-20-05

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
10	Mer	99	16.4/20.6	548	656

Claudio Avila — 6-4-03
CERTIFIED ENGINEERING GEOLOGIST — DATE

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

MILES CREEK BRIDGE

LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 10 EA: 363101

BRIDGE No. 39-0007R/L

Sheet 15 of 15

Revisions made to this Log of Test Borings from the original 1984 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from C/L Rte. 99
B-1	110+28	18.0 m Lt.
B-2	110+60	22.5 m Lt.

Notes:

1. See the General Plan and/or Foundation Plan for Metric Stationing.
2. Structure Design produced the data presented in the table above. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

LEGEND OF BORING OPERATIONS

MATERIALS: GRAVEL, SAND, SILT, CLAY, ORGANIC SILT, ORGANIC CLAY, PEAT, FILL MATERIAL, IGNEOUS ROCK, METAMORPHIC ROCK, SEDIMENTARY ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Granular	Penetration Blows/Ft.	Cohesive
Very loose	0-4	Very soft
Loose	4-10	Soft
Slightly compact	10-30	Stiff
Compact	30-50	Very stiff
Dense	50-70	Hard
Very dense	70	Very hard

NOTE: Classification of earth material as shown on this sheet is based on visual field inspection and is not to be construed to imply representation of laboratory tests.

UNIFIED SOIL CLASSIFICATION SYSTEM

Coarse grained soils								Fine grained soils			
Gravels (More than half of coarse fraction is larger than No. 4 sieve size)			Sands (More than half of coarse fraction is smaller than No. 4 sieve size)			Silts and Clays (Liquid limit less than 50)			Silts and Clays (Liquid limit greater than 50)		Highly Organic Soils
Clean gravels (Little or no fines)		Gravels with fines (Appreciable amount of fines)	Clean sands (Little or no fines)		Sands with fines (Appreciable amount of fines)						
GW	GP	GM	GC	SW	SP	SM	SC	ML	CL	OL	MH	CH	OH	Pt

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY: J.DONALDSON 6/84
CHECKED BY:
PROJECT GEOLOGIST — REG. NO.
Approved Recommended By:
ENGINEERING GEOLOGIST 778 — CEG NO.
CHARGE UNIT | EXPEND AUTHOR | SPEC. DESIGN

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN
PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. 39 07R/L
POST MILE 1083

MILES CREEK BRIDGE (WIDEN)
LOG OF TEST BORINGS

DS 0146

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU. 10200
WO 293501

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET

BR39-0007R/L

ClibPDF - www.fastio.com

CORRECTIONS TRANSFERED BY: SP
FIELD CORRECTIONS BY: P.Mouq

TRANSFER DATE: 4-15-2008
FIELD CORRECTION DATE: 6-11-2007

CONTRACT NO: 10-363104

NO AS BUILT CORRECTIONS

BENCH MARK

BM 1420 Elev. 55.07 m
FND Rod in Monument Well

⟸ To Fresno

C/L Rte. 99 N44°29'28"W

110+00 +20 +40 +60 +80

To Merced ⟹

PLAN
1:400

02-1
94 mm

29.5 m Rt. Sta. 110+54
C/L Rte. 99

53.92

02-1
94 mm

53 m		Lean CLAY (CL), stiff, very dark grayish brown, moist, rootlets. qu ≥ 431 kPa, Su > 48 kPa
	15 35	SANDY lean CLAY (CL), stiff, grayish brown, moist. Qu =192 kPa
50 m	11 35	Lean CLAY with SAND (CL), stiff, grayish brown, wet. Qu = 287 kPa
	18 35	SILT with SAND (ML), medium dense, yellowish brown, moist, caliche.
		SANDY SILT (ML), medium dense, grayish brown, moist, coarse SAND to fine GRAVEL.
		SILTY SAND (SM), medium dense, strong brown, moist to wet, some fine GRAVEL layers, weak to moderate cementation.
47 m	20 35	SILT (ML), medium dense, light yellowish brown, moist, caliche, weak to moderate cementation.
		Lean CLAY with SAND (CL), firm, light yellowish brown, moist to wet.
		25 mm thick layer of very soft CLAY at elev. 46.720m. Su= 38 kPa
	20 35	SANDY SILT (ML), medium dense, light yellowish brown, wet.
		Well graded fine to coarse SAND with SILT (SW-SM), dense, dark yellowish brown, wet.
44 m	47 35	SANDY SILT (ML), dense, yellowish brown, moist to wet, weak to moderate cementation.
	12 35	SANDY fat CLAY (CH), stiff, yellowish brown, moist to wet, weak to moderate cementation. Qu= 240 -287 kPa
		Qu= 192 -383 kPa
41 m	21 35	SILTY fine SAND (SM), medium dense, dark yellowish brown, moist to wet.
	14 35	Fat CLAY with SAND (CH), very stiff, light olive brown, moist to wet.
		Qu= 263 kPa
		Moderate cementation. qu = 287 - 431 kPa, Su = 62 kPa
38 m	21 35	CLAYEY SAND (SC), medium dense, light yellowish brown, moist to wet, moderate cementation. Qu = 192 kPa
	21 35	
		Lean CLAY (CL), very stiff, light yellowish brown, moist to wet, moderate cementation. Qu= 287 - 431 kPa, Su = 67 kPa
35 m	15 35	Qu= 311 kPa
		Qu= 287 kPa, Su = 43 kPa
	15 35	Qu= 353 kPa
32 m	6 35	Qu= 96 kPa
	27 35	Poorly graded fine to medium SAND with SILT, medium dense, grayish brown, moist to wet.
29 m	24 35	Well graded fine to coarse SAND (SW), medium dense, yellowish brown, wet, some fine GRAVEL.
		SANDY lean CLAY (CL), soft, grayish brown, wet.
	24 35	Poorly graded medium SAND with SILT (SP-SM), medium dense, dark grayish brown, wet.
26 m	39 35	SILT (ML), dense, grayish brown, moist to wet, some CLAY.
	40 35	
		Poorly graded fine to medium SAND with SILT (SP-SM), dense, dark grayish brown, wet.
23 m	45 35	SILTY SAND (SM), dense, grayish brown, wet.

10-24-02

110+50 110+60 110+70 110+80 110+90

PROFILE
HOR. 1:100
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Notes:

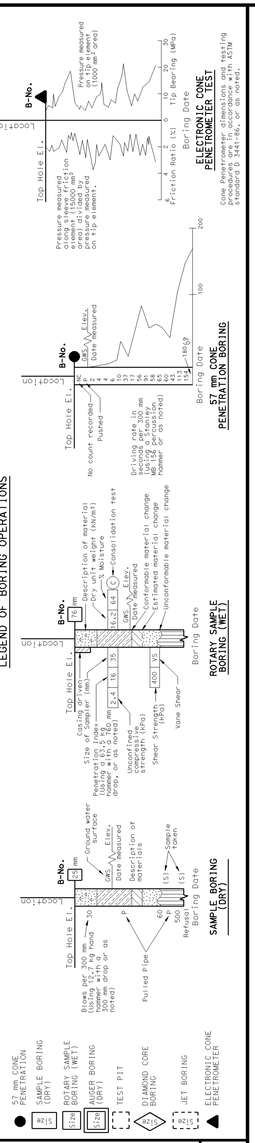
1. Groundwater elevation was not measured. However, groundwater was measured at an elev. 51.70 m at the nearby proposed Owen Creek Bridge (39-0006)

2. Standard Penetration test were obtained using an Automatic Dietrich hammer.

3. qu=unconfined compressive strength using a pocket penetrometer.

4. Su=undrained shear strength using a torvane.

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · COBBLES and/or BOULDERS · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

SPT N-Value (Blows/0.3 m)	Granular	Cohesive
0-4	Very Loose	Very Soft
5-10	Loose	Soft
11-30	Medium Dense	Firm
31-50	Dense	Stiff
>50	Very Dense	Very stiff
		Hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	16.4/20.6	547	656

Caltrans Metric

Claudio Avila 6-4-03
CERTIFIED ENGINEERING GEOLOGIST

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

6-20-05
PLANS APPROVAL DATE

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ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	F. Nguyen 5/03
CHECKED BY	C. Avila

FIELD INVESTIGATION BY: J. Kaump

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF STRUCTURES
STRUCTURE DESIGN 6

BRIDGE NO. 39-0007R/L
KILOMETER POST 17.43

MILES CREEK BRIDGE
LOG OF TEST BORINGS 1 of 2

OGS GEOLOGIST LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 10
EA 363111

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 6-4-03 | 11-18-04

SHEET 14 OF 15

FILE => 39_0071r_z1otb1.dgn

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BR39-0007R/L

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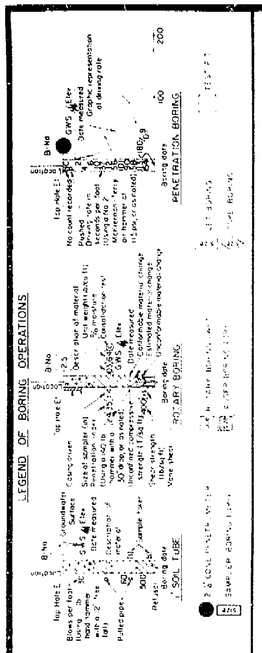
65

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Mer	59, 99	28.2; 2.6/11.4	65	95

Robert W. Reynolds #165
ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED February 18, 1986

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SILT, CLAY or SANDY SILT, CLAY · PEAT and/or ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK · SANDY SILT or SILTY SAND

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration (Blows/Ft)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Shift
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this chart is based upon field inspection and is not to be construed to imply mechanical analysis.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Group Symbols	Typical Names	Information required for describing soils	Laboratory Classification Criteria
Coarse grained soils — Gravels (More than half of coarse fraction is larger than No. 4 sieve size) — Clean gravels (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines	Give typical name; indicate approximate percentages of sand and gravel; maximum size; angularity, surface condition, and hardness of the coarse grains; local or geologic name and other pertinent descriptive information; and symbol in parentheses	For undisturbed soils add information on stratification, degree of compactness, cementation, moisture conditions and drainage characteristics. Example: Clayey gravel, GC, brown, slightly plastic, small percentage of fine sand, numerous vertical root holes, firm and dry in place, loess, alluvium, etc.
	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines		
Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures		
	GC	Clayey gravels, gravel-sand-clay mixtures		
Sands (More than half of coarse fraction is smaller than No. 4 sieve size) — Clean sands (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines		
	SP	Poorly graded sands, gravelly sands, little or no fines		
Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures		
	SC	Clayey sands, sand-clay mixtures		
Fine grained soils — Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity		
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
	OL	Organic silts and organic silty clays of low plasticity		
Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
	CH	Inorganic clays of high plasticity, fat clays		
	OH	Organic clays of medium to high plasticity, organic silts		
Highly Organic Soils	Pt	Peat and other highly organic soils		

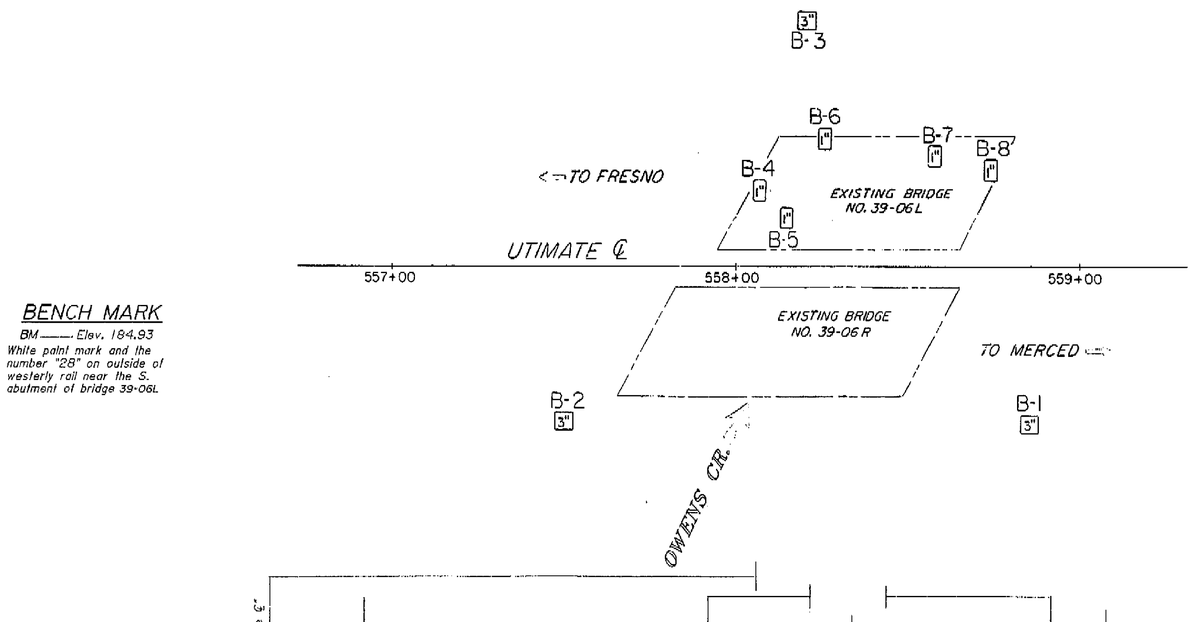
BENCH MARK

BM ——— Elev. 184.93

White paint mark and the number "28" on outside of westerly rail near the S. abutment of bridge 39-06L

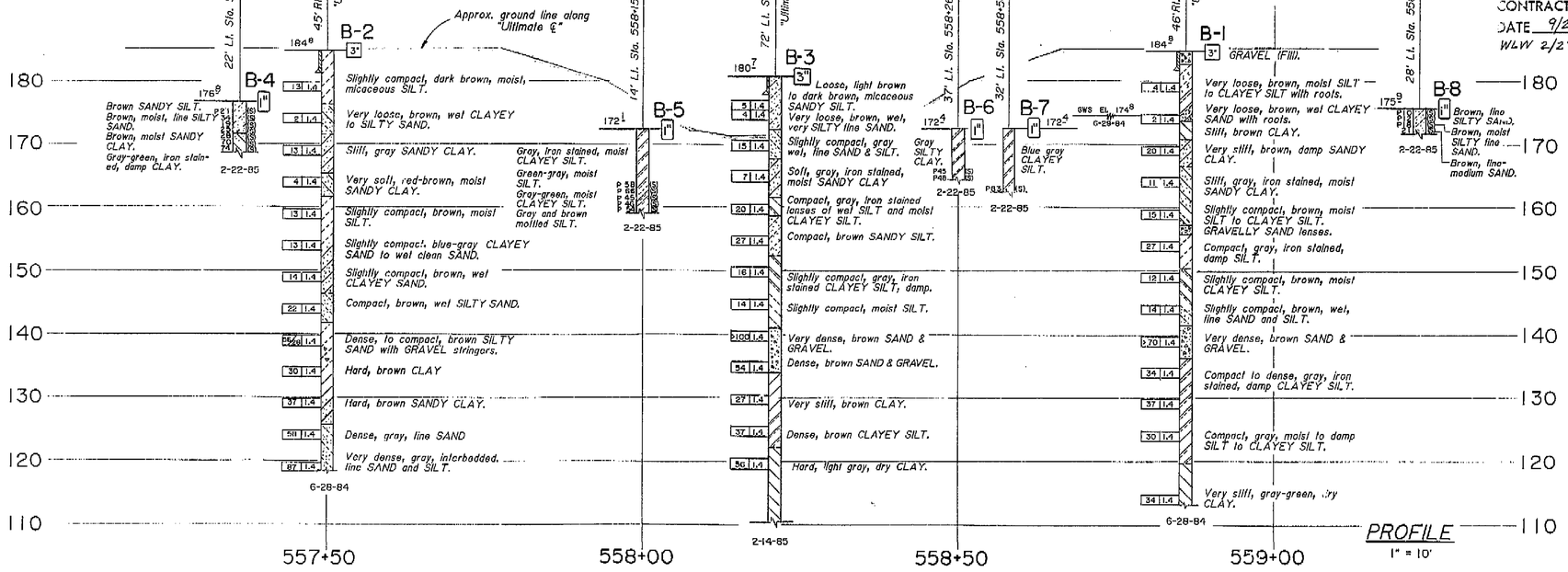
PLAN

1" = 20'



PROFILE

1" = 10'



NO AS BUILT CORRECTION

AS BUILT

CORRECTIONS BY D.S. Lamb

CONTRACT NO. 10-293504

DATE 9/21/87

WLW 2/27/90

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY IRMA HOWELL 10/84

CHECKED BY R. Hogan

PROJECT GEOLOGIST R. T. Hogan 778 CEG NO.

ENGINEERING GEOLOGIST Ronald Chelkowski 22013 CE NO.

CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN.

State of **CALIFORNIA** DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN 3

Jim Healy 19 815
PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.	POST MILE
39-06 R	10.6

OWENS CREEK BRIDGE (WIDEN)

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 10
WO 293501

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY): 3/24/85, 8/4/86, 10/1/87

SHEET	OF
8	9

05 0346

AS BUILT PLANS
Contract No. 10-293504
Date Completed 9-21-87
Document No.

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 1-12-90 SIGNATURE Ronald Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

043-55-78

BR39-0006R/L

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MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION – MICROFILM
SCALE 1"= 20'
SCALE 1"= 50'
SCALE 1"= 20'
MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION – MICROFILM
SCALE 1"= 20'

NO AS BUILT CORRECTIONS

CORRECTIONS TRANSFERED BY: SP
FIELD CORRECTIONS BY: P.Mouq

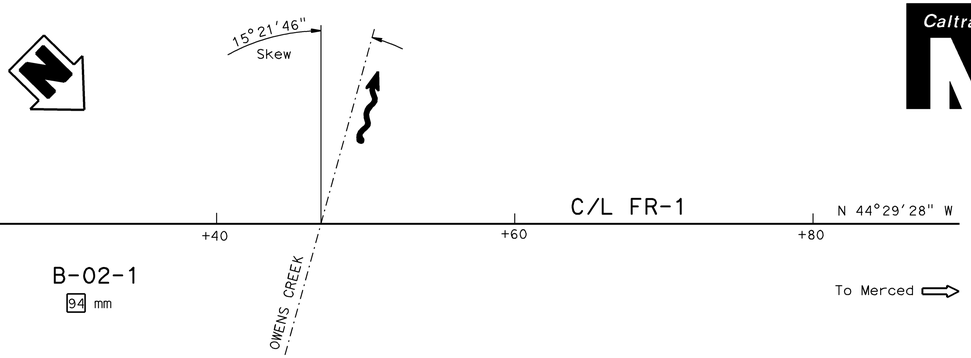
TRANSFER DATE: 4-25-2008
FIELD CORRECTION DATE: 6-11-2007

CONTRACT NO: 10-363M4

BENCH MARK

BM CM 105 Elev. 55.95 m

¾ Inch rebar



5.33 m Rt. Sta. 18+30.67
C/L FR-1

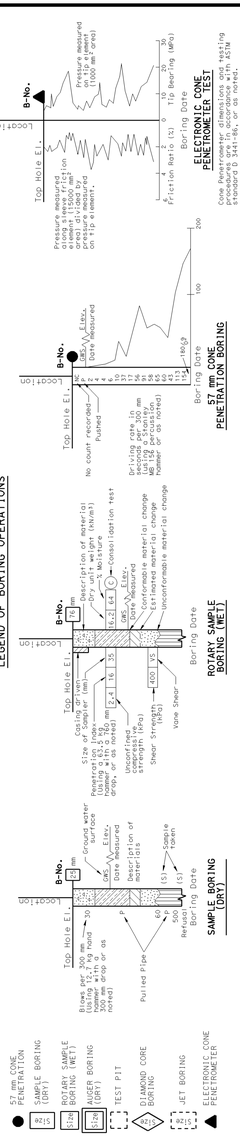
PLAN
1:200

Notes: qu=unconfined compressive strength using a pocket penetrometer.



PROFILE
HOR. 1:100
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	W. Tang 05/03
CHECKED BY	C. Avila

FIELD INVESTIGATION BY: J. Kaump

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 6

BRIDGE NO. 39-0006R/L
KILOMETER POST 16.98

OWENS CREEK BRIDGE
LOG OF TEST BORINGS 1 OF 2

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	16.4/20.6	643	656

Claudio Avila 6-5-03
CERTIFIED ENGINEERING GEOLOGIST

6-20-05
PLANS APPROVAL DATE

REGISTERED GEOLOGIST
Claudio Avila
No. 2208
Exp. 9-30-03
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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CU 10
EA 363111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 6-5-03, 11-16-04

SHEET 14 OF 15

BR39-0006R/L

OGS GEOLOGIST LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

FILE => 6lr_ziotb1.dgn

USERNAME => dpoto DATE PLOTTED => 30-APR-2008 TIME PLOTTED => 13:31

ClibPDF - www.fastio.com

DIST	COUNTY	ROUTE	POST MILES — TOTAL PROJECT	SHEET NO.
10	MER	99		

Robert W. Reynolds #165
ENGINEER IN RESPONSIBLE CHARGE — PROJECT DEVELOPMENT
DATE APPROVED

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES					
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.					
DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
10	Mer	99	16.4/20.6	644	656

Claudio Avila — 6-5-03
CERTIFIED ENGINEERING GEOLOGIST — DATE

REGISTERED GEOLOGIST — Claudio Avila — No. 2208 — Exp. 9-30-03 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

OWENS CREEK BR @ HWY 99

LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 10
EA: 363101

BRIDGE No. 39-0006R/L

Sheet 15 of 15

To accompany plans dated 6-20-05

BENCH MARK

BM—— Elev. 184.93

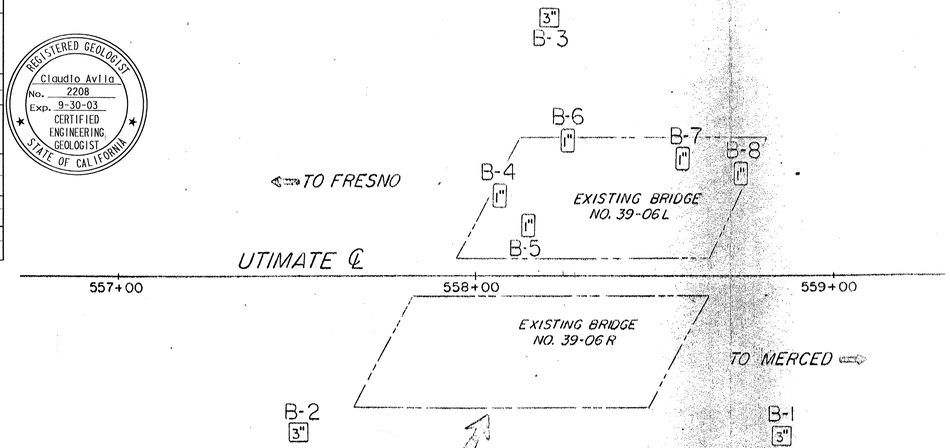
White paint mark and the number "28" on outside of westerly rail near the S. abutment of bridge 39-06L

Revisions made to this Log of Test Borings from the original 1985 Log of Test Borings are the addition of the following table and notes:

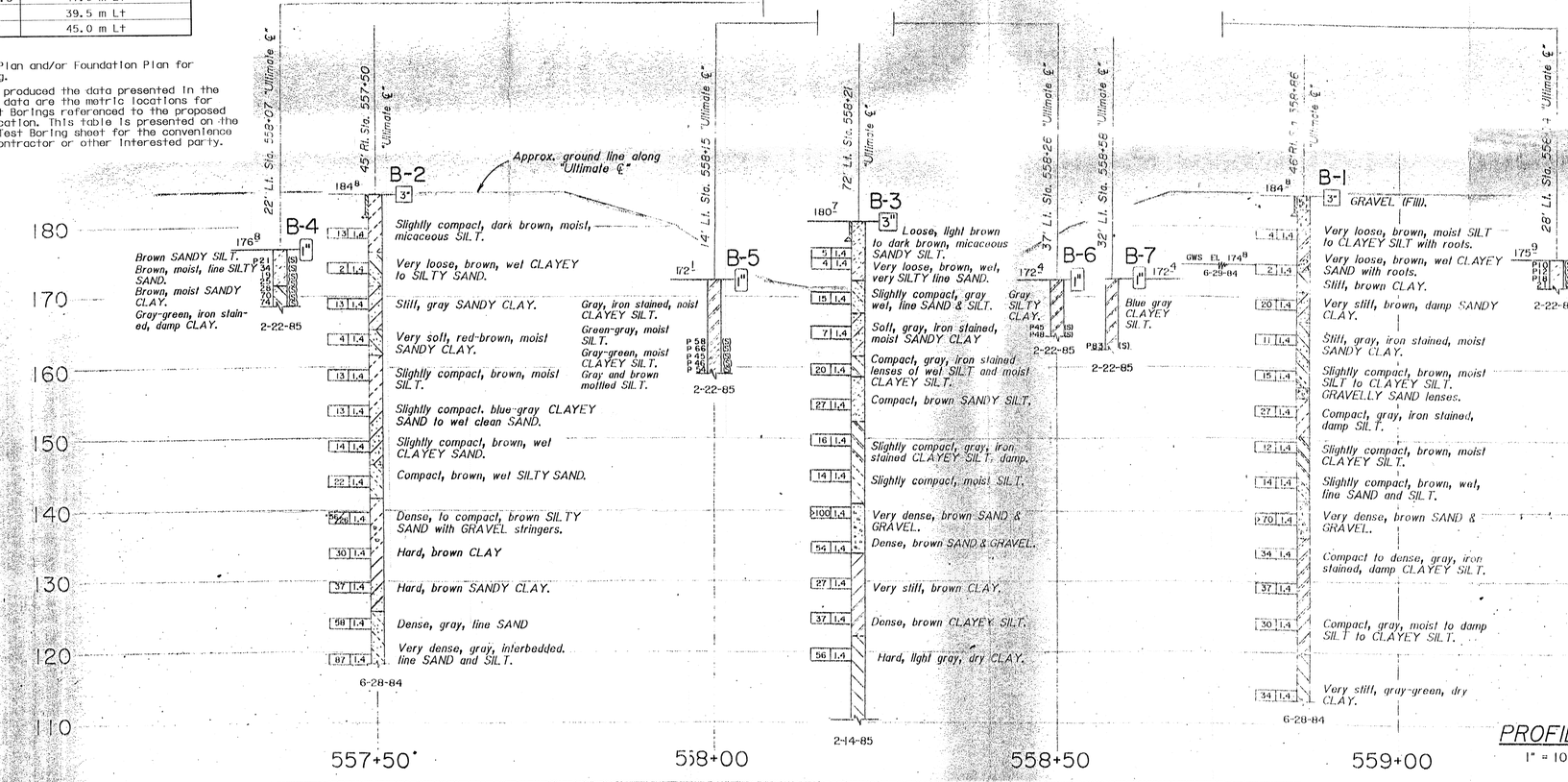
Boring	Station	Offset from C/L Rte. 99
B-1	106+11	23.0 m Rt
B-2	105+68.5	23.0 m Rt
B-3	105+91	58.5 m Lt
B-4	105+86	43.5 m Lt
B-5	105+90	40.0 m Lt
B-6	105+93.5	47.0 m Lt
B-7	106+01	39.5 m Lt
B-8	106+07	45.0 m Lt

Notes:

1. See the General Plan and/or Foundation Plan for Metric Stationing.
2. Structure Design produced the data presented in the table above. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

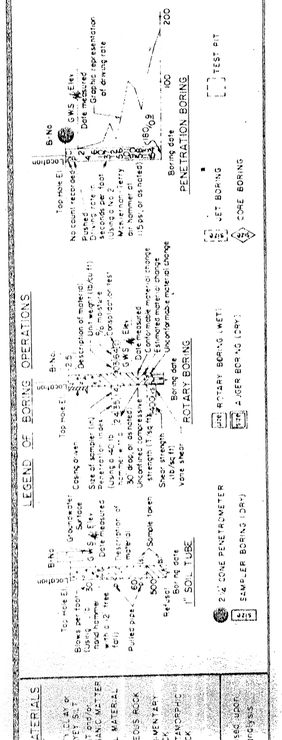


PLAN
1" = 20'

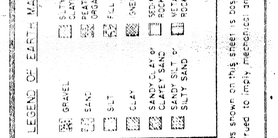


PROFILE
1" = 10'

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS



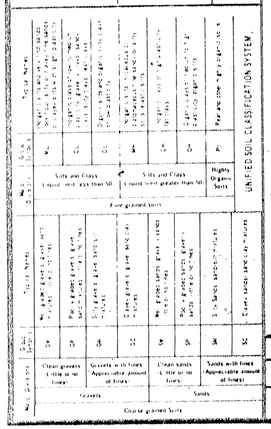
CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Resistance (Blows/ft.)	Granular	Cohesive
0-4	Very loose	Very soft
4-10	Loose	Soft
10-30	Slightly compact	Stiff
30-50	Compact	Very stiff
50-90	Dense	Hard
90+	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply materials' properties.

UNIFIED SOIL CLASSIFICATION SYSTEM



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	IRMA HOWELL 10/84	Approved Recommended by:		CHARGE UNIT	EXPEND AUTHOR
CHECKED BY		PROJECT GEOLOGIST	778 CEG NO	ENGINEERING GEOLOGIST	2213 CE NO

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN — Jim Deal, 1985 — PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO

BRIDGE NO. 39-06R
POST MILE 10.6

OWENS CREEK BRIDGE (WIDEN)
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCES FOR REDUCED PLANS 0 1 2 3

CU 10
WO 293501

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 8 OF 8

05 0146

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BR39-0006R/L

NO AS BUILT CORRECTIONS

CORRECTIONS TRANSFERED BY: SP
FIELD CORRECTIONS BY: P.Mouq

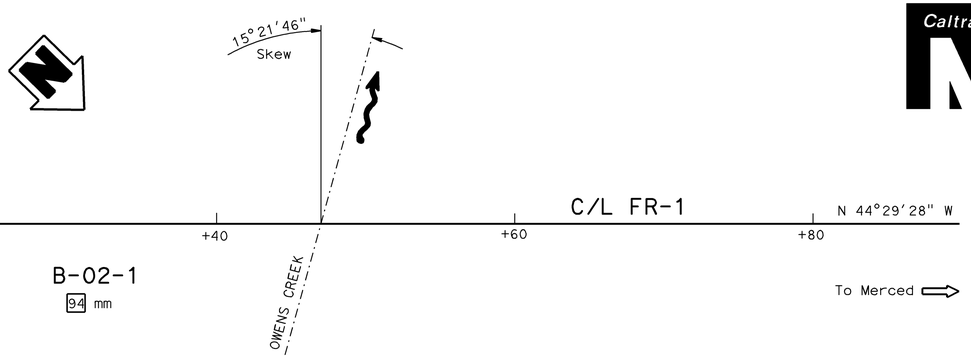
TRANSFER DATE: 4-25-2008
FIELD CORRECTION DATE: 6-11-2007

CONTRACT NO: 10-363M4

BENCH MARK

BM CM 105 Elev. 55.95 m

¾ Inch rebar



5.33 m Rt. Sta. 18+30.67
C/L FR-1

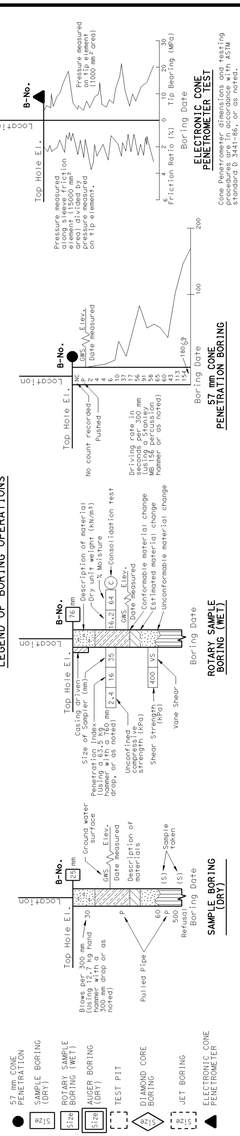
PLAN
1:200

Notes: qu=unconfined compressive strength using a pocket penetrometer.



PROFILE
HOR. 1:100
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	W. Tang 05/03
CHECKED BY	C. Avila

FIELD INVESTIGATION BY: J. Kaump

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 6

BRIDGE NO. 39-0006R/L
KILOMETER POST 16.98

OWENS CREEK BRIDGE
LOG OF TEST BORINGS 1 OF 2

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	16.4/20.6	643	656

Claudio Avila 6-5-03
CERTIFIED ENGINEERING GEOLOGIST

6-20-05
PLANS APPROVAL DATE

REGISTERED GEOLOGIST
Claudio Avila
No. 2208
Exp. 9-30-03
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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CU 10
EA 363111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 6-5-03, 11-16-04

SHEET 14 OF 15

BR39-0006R/L

OGS GEOLOGIST LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

FILE => 6lr_ziotb1.dgn

USERNAME => dpoto DATE PLOTTED => 30-APR-2008 TIME PLOTTED => 13:31

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LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-2

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

Boring No. SS-SB1-2004 MW1

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/26/04 — Finish Date/Time 05/26/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	16.0' bgs		
Date - Time	05/26/2004		
Depth of Hole (ft)	25.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
0905							
0920	SS-SB04-1 -5.0		5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Soil sample no recovery.
0930	SS-SB04-1 -10.0		10	NA		GM	GRAVEL with SILT: Light gray color, mostly dry, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 2' thick, very difficult to drill through; no petroleum odor (0 ppmv on PID). Silt beds up to 6" thick. Blow count: 17/34/30.
0945	SS-SB04-1 -15.0		15	All ND		GM	GRAVEL with SILT: Light gray color, moist, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, moderately difficult to drill through; slight petroleum odor (10 ppmv on PID). Silt beds up to 6" thick. Analytical results: All ND. Blow count: 25/27/50 Water Table at 16.0' bgs.
1000	SS-SB04-1 -20.0		20	NA		GM	GRAVEL with SAND: Light brown color, wet, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, moderately difficult to drill through; slight petroleum odor (5 ppmv on PID). Sand beds up to 6" thick. Blow count: 35/38/47.
1012	SS-SB04-1 -25.0		25	All ND		GM	GRAVEL with SAND and SILT: Brown to reddish brown color, wet, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, no petroleum odor (0 ppmv on PID). Sand and silt beds up to 6" thick. Blow count: 30/25/27.
			30				
			35				

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

SS-MW1 originally drilled and completed on April 16, 1998. No soil samples were collected and analyzed for petroleum hydrocarbon constituents from the original soil boring.

D:Environmental\Stillman\SoilBorings\SS-SB04-01.ai

GEOTRACKER ID#:T0604700088

Boring No. SS-SB2-2004 MW2

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/27/04 — Finish Date/Time 05/27/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	17.0' bgs		
Date - Time	05/27/2004		
Depth of Hole (ft)	30.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
0750							
0800			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
0811	SS-SB04-2 -10.0		10	NA		GM	GRAVEL with SAND: Light gray color, dry, micaceous, very dense; moderate petroleum odor (250 ppmv on PID). Blow count: 30/50/60
							Strong gasoline odor (400 ppmv on PID).
0816	SS-SB04-2 -15.0		15	See Side		SM	SAND with GRAVEL: Gray-green color, slight to moderately dense; moist, moderate petroleum odor (250 ppmv on PID). Blow count: 30/45/55. Analytical results: toluene (0.77 mg/kg), ethylbenzene (2.3 mg/kg), xylene (8.8 mg/kg), TPH-gas (890 mg/kg), TAME (0.060 mg/kg), all other compounds are ND.
							Water Table at 17.0' bgs.
0827	SS-SB04-2 -20.0		20	NA		SM	SAND with GRAVEL: Gray-green color, slight to moderately dense; wet, slight petroleum odor (100 ppmv on PID). Blow count: 35/45/50.
0837	SS-SB04-2 -25.0		25	NA		SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 14/33/35
0846	SS-SB04-2 -30.0		30	All ND		SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 16/22/25
			35				

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

SS-MW2 originally drilled and completed on December 11, 1998. No soil samples were collected and analyzed for petroleum hydrocarbon constituents from the original soil boring.

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GEOTRACKER ID#:T0604700088

Boring No. SS-SB4-2004 MW4 **SOIL BORING REPORT** Page 1 of 1

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/26/04 Finish Date/Time 05/26/04
Drilled By	Earthtec Limited	Logged By	SGM Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	18.0' bgs		
Date - Time	05/26/2004		
Depth of Hole (ft)	30.0' bgs		

Time	Sampled Depth Interval and Number	Monitoring Well Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1345							
1350			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1355	SS-SB04-4 -10.0		10	NA		GM	GRAVEL with SAND: Light gray color, dry, micaceous, very dense; no petroleum odor (0 ppmv on PID). Blow count: 30/55/60
1410	SS-SB04-4 -15.0		15	All ND		GM	GRAVEL with SAND: Light brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 35/45/54.
							Water Table at 18.0' bgs.
1419	SS-SB04-4 -20.0		20	NA		GM	GRAVEL with SAND: Light brown color, wet, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, very difficult to drill through; no petroleum odor (0ppmv on PID). Sand beds up to 6" thick. Blow count: 38/35/55.
1430	SS-SB04-4 -25.0		25	NA		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 14/33/35
1435	SS-SB04-4 -30.0		30	All ND		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 16/22/25
			35				

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 30 to 9 feet bgs; locking cap on top of case with traffic box set in ground. Neat cement seal from 7 to 3 feet bgs. Cement setting for traffic box. Traffic box completed with lid about 1 inch above ground surface. Locking cap on casing.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD27
Easting (feet) 2051227.53 Northing (feet) 289,553.91
Elevation of Wellhead: 225.24 feet msl (NAVD88).

GEOTRACKER ID#:T0604700088

Boring No. SS-SB6-2004 MW5

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/26/04 — Finish Date/Time 05/26/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	16.0' bgs		
Date - Time	05/26/2004		
Depth of Hole (ft)	30.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1145							
1155			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1201	SS-SB04-6 -10.0		10	NA		SC	GRAVEL with SAND: Light gray color, dry, micaceous, very dense; no petroleum odor (0 ppmv on PID). Blow count: 32/50/55
1226	SS-SB04-6 -15.0		15	All ND		SC	GRAVEL with SAND: Light brown color, dry, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 39/42/44. Analytical results: All ND.
							Water Table at 18.0' bgs.
1240	SS-SB04-6 -20.0		20	NA		GM	GRAVEL with SAND: Light brown color, wet, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, very difficult to drill through; no petroleum odor (0ppmv on PID). Sand beds up to 6" thick. Blow count: 38/34544.
1252	SS-SB04-6 -25.0		25	NA		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 15/30/35
1305	SS-SB04-6 -30.0		30	All ND		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 15/25/35
			35				

WELL COMPLETION NOTES: Solid 2" diameter schedule 40 PVC to 10 feet below ground surface; bentonite chip seal from 7 to 9 feet below ground surface; screen set from 10 to 30 feet below ground level with 0.010 screen; Monterey #212 filter sand pack from 30 to 9 feet bgs; locking cap on top of case with traffic box set in ground. Neat cement seal from 7 to 3 feet bgs. Cement setting for traffic box. Traffic box completed with lid about 1 inch above ground surface. Locking cap on casing.

Wellhead surveyed with following coordinates: California State Plane Horizontal Coordinates, Zone 3, NAD27
Easting (feet) 2051372.42 Northing (feet) 289,612.81
Elevation of Wellhead: 225.62 feet msl (NAVD88).

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GEOTRACKER ID#:T0604700088

Boring No. SS-SB5-2004

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/26/04 — Finish Date/Time 05/26/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	16.0' bgs		
Date - Time	05/26/2004		
Depth of Hole (ft)	30 feet bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1020							
1035			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1045	SS-SB04-5 -10.0		10	NA		SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 32/50/50
1103	SS-SB04-5 -15.0		15	See side		SC	SILTY CLAY with GRAVEL: Blue green color, slightly moist, micaceous, slight to moderately dense; strong petroleum odor (400 ppmv on PID). Blow count: 39/42/44. Analytical results: ethylbenzene (0.17 mg/kg); xylene (0.32 mg/kg); TPH-gas (46 mg/kg). Water Table at 18.0' bgs.
1114	SS-SB04-5 -20.0		20	NA		GM	GRAVEL with SAND: Light brown color, wet, pebbles to 1" diameter of quartz monzonite; gravel in beds up to 1' thick, very difficult to drill through; slight petroleum odor (50ppmv on PID). Sand beds up to 6" thick. Blow count: 38/35/44.
1120	SS-SB04-5 -25.0		25	All ND		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 16/35/45
1134	SS-SB04-5 -30.0		30	All ND		SM	SILTY SAND: Light brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 15/25/35
			35				

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

GEOTRACKER ID#:T0604700088

Boring No. SS-SB7-2004

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/26/04 — Finish Date/Time 05/26/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	17.0' bgs		
Date - Time	05/26/2004		
Depth of Hole (ft)	30.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
1528							
1538			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1538	SS-SB04-7 -10.0		10	NA		GM	GRAVEL with SILTY CLAY: Light gray color, dry, micaceous, very dense; no petroleum odor (0 ppmv on PID). Blow count: 35/45/55
							Strong gasoline odor (200 ppmv on PID).
1545	SS-SB04-7 -15.0		15	See Side		SM	SAND with GRAVEL: Gray-green color, slight to moderately dense; moist, strong petroleum odor (550 ppmv on PID). Blow count: 35/45/50. Analytical results: ethylbenzene (2.1 mg/kg); xylene (2.9 mg/kg); TPH-gas (480 mg/kg), all others ND.
							Water Table at 17.0' bgs.
1600	SS-SB04-7 -20.0		20	NA		SM	SAND with GRAVEL: Gray-green color, wet, slight petroleum odor (150 ppmv on PID). Blow count: 30/45/55.
1611	SS-SB04-7 -25.0		25	All ND		SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 14/33/35
1620	SS-SB04-7 -30.0		30	NA		SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID). Blow count: 16/22/25
			35				

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

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GEOTRACKER ID#:T0604700088

Boring No. SS-SB8-2004

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/27/04 — Finish Date/Time 05/27/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information

Depth to Groundwater (ft)	17.0' bgs		
Date - Time	05/27/2004		
Depth of Hole (ft)	30.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
0850							
0900			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
0915	SS-SB04-8 -10.0		10	NA		GM	GRAVEL with SAND: Light gray color, dry, micaceous, very dense; moderate petroleum odor (250 ppmv on PID). Blow count: 30/50/60
							Strong gasoline odor (400 ppmv on PID).
0938	SS-SB04-8 -15.0		15	See Side		SM	SAND with GRAVEL: Gray-green color, slight to moderately dense; moist, moderate petroleum odor (250 ppmv on PID). Blow count: 30/45/55. Analytical results: ethylbenzene (0.046 mg/kg), xylene (0.093 mg/kg), TPH-gas (14 mg/kg).
							Water Table at 17.0' bgs.
0953	SS-SB04-8 -20.0		20	All ND		SP	SAND with GRAVEL: Light brown color, slight to moderately dense; wet, no petroleum odor (0 ppmv on PID). Blow count: 30/35/40.
1015			25			SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1031			30			SM	SILTY SAND: Light brown color, wet, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
			35				

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

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GEOTRACKER ID#:T0604700088

Boring No. SS-SB9-2004

SOIL BORING REPORT

Project	Former Stollings Service Station Site	Project Number	N/A
Location	9041 East Highway 140, Planada	Start Date/Time	05/27/04 — Finish Date/Time 05/27/04
Drilled By	Earthtec Limited	Logged By	SGM — Reviewed By
Drilling Method	Continuous Flite Augur	Weather/Temp(°F)	Clear / Hot
Bit Type	Auger — Bit Size 10"	Field Monitor	PID - MiniRae 2000 #4132
Sampling	California Split Spoon Sampler (18")	Surface Conditions	Dirt
		Ground Elevation	225 feet (Mean Sea Level)

Water Level Information			
Depth to Groundwater (ft)	17.0' bgs		
Date - Time	05/27/2004		
Depth of Hole (ft)	20.0' bgs		

Time	Sampled Depth Interval and Number	Soil Boring Completion Schematic	Depth (ft)	Laboratory Analysis	Graphic Log	Soil Group Symbol (USCS)	Soil Description
0850							
0900			5			SC	SILTY CLAY: Dark brown color, slightly moist, micaceous, slight to moderately dense; no petroleum odor (0 ppmv on PID).
1047	SS-SB04-9 -10.0		10	NA		SM	SAND with GRAVEL: Light brown color, moist, micaceous, dense; no petroleum odor (0 ppmv on PID). Gravel lenses to 1' thick. Blow count: 30/45/50
1053	SS-SB04-9 -15.0		15	All ND		SM	SAND with GRAVEL: Light brown color, moist, micaceous, dense; no petroleum odor (0 ppmv on PID). Gravel lenses to 1' thick. Blow count: 35/40/55
							Water Table at 17.0' bgs.
1103	SS-SB04-9 -20.0		20	All ND		SM	SAND with GRAVEL: Light brown color, slight to moderately dense; wet, no petroleum odor (0 ppmv on PID). Blow count: 20/30/35.
1031							

SOIL BORING COMPLETION NOTES: Boring drilled with continuous flite auger and sampled. Boring backfilled with neat cement to within 3 feet of surface. Native soil at surface. Cuttings placed in USDOT drum on site and labeled as "soil boring cuttings". Rinse water from steam cleaning drummed in 55 gallon US DOT drums, labeled, and stored on site for future disposal.

GEOTRACKER ID#:T0604700088

BORING / WELL COMPLETION LOG

SVW - 1

Page 1 of 1

Client:	Superway Market		
Location:	9300 Hwy. 140, Planata, California	Contractor:	Frontier Drilling
Project :	Project #:	Drilling Method:	HS Auger — Size: 10"
Date Started: 11/23/94	Date Completed: 11/23/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 15 feet	Water Depth: none	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	4" PVC 0-10'	(.040) 10-15'	pea gray 9-15'	bent. 7-9'	neat 1-7'	"T" and cap	traffic	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0								3" Asphalt	
								1 - CLAY, sandy; drk. yell-brn; sl. plastic.	no odor
								3 - CLAY, silty, sandy; drk. red-brn. to red-blk.; sl. plastic.	no odor
5							CL	5 - CLAY, as above, gray mottling, probably from supply line leakage from old tank to island.	mod. odor
								7 - CLAY, v. silty, sandy; yell-brn; sl. plastic.	strong odor
10								9 - SAND, silty clayey lenses; med. yell-brn, dry.	strong odor
							SM		
								13 - GRAVEL, poorly graded to 3", silty, sandy, dry.	mod. odor
15							GM/ GP		
								TD = 15 feet	
								Not sampled, five feet from existing sampled monitoring well.	
20									
25									
30									
35									
40									

GEOTRACKER ID#:T0604700211

BORING / WELL COMPLETION LOG

MW - 5

Page 1 of 1

Client: Superway Market			
Location: 9300 Hwy. 140, Planata, California		Contractor: Frontier Drilling	
Project :	Project #:	Drilling Method: HS Auger	Size: 8"
Date Started: 11/18/94	Date Completed: 11/18/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 31½ feet	Water Depth: ~22 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC +2to9'	(.010) 9-29'	#3sand 7-30'	bent. 5-7'	neat +1 to 5'	locking	steel riser	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.		FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0						CL	0 CLAY, silty, sl. sandy; drk. brn., tight, hard.	no odor
5	22 30		0			SM	5 - SAND, silty; yell-white; v. hard, v. calc., Fe stains, dry.	no odor
10	9 14 20		0			SW	10 - SAND, f. to med. grnd.; lt.-gray, well sorted; crs micas, clean, fairly loose, dry.	no odor
15	50/5" rock		0			GM/ GP	13 - GRAVEL (schist, basalt), sandy; red-brn; loose, poorly sorted sand, gravel to 2". Poor recovery, rock at 15½ feet.	no odor
20	50/5" no recovery						20 - GRAVEL, COBBLES, only gravel returns to surface. - - - - - - ~w.l.	no odor
25	50/0 no recovery					SM	25 - no return, rock, wet on spoon @~23 feet.	no odor
30	22 26 40		0				30 - SAND, v. fine, well graded, silty; med.-gray; crs Fe stained sand/gravel lenses, thinly bedded, micaceous, wet.	no odor
35								
40								

TD = 31½ FEET

GEOTRACKER ID#:T0604700211

BORING / WELL COMPLETION LOG

MW - 6

Page 1 of 1

Client:	Superway Market		
Location:	9300 Hwy. 140, Planata, California	Contractor:	Frontier Drilling
Project :	Project #:	Drilling Method: HS Auger	Size: 8"
Date Started: 11/18/94	Date Completed: 11/18/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 30 feet	Water Depth: ~22 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC 0-29'	(.010) 9-29'	#3sand 8-30'	bent. 6-8'	neat 0-6'	locking	traffic	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0							CL	CLAY, silty, sandy; drk. brown w/ red Fe staining; tight, v. sl. plastic.	no odor
5	10 16 40		0				SM	5 - SAND, arkosic, (driller: 5½-6½ gravelly); redish-yell.; Fe stained, tight, calc.	no odor
10	18 32 44		0				SW	10 - SAND, f. grnd., well sorted; red-brn.; hard, part. cemented, root casts, micaceous, dry.	no odor
15	14 26 38						GM/ GP	15 - SAND, as above w/ gray mottling. 16 - SAND, as above, med.-gray. 16½ - 23 GRAVEL.	no odor no odor
20	-							20 - GRAVEL to 4", caving, no sample return	
	no recovery-rocks							------~w.l.	
25	9 12 16						SM	25 - Partial return of 2" gravel w/ SAND, silty, f.-grnd.; med. gray w/ Fe stains, root casts, micaceous, fair sorting.	no odor
	no recovery-rock in shoe								
30	no sample-heaving sands							30 _ SAND heaving up into augers and raising auger bottom plug.	
35									
40									

TD = 30 feet

GEOTRACKER ID#:T0604700211

BORING / WELL COMPLETION LOG

SVW - 1

Page 1 of 1

Client:	Superway Market		
Location:	9300 Hwy. 140, Planata, California	Contractor:	Frontier Drilling
Project :	Project #:	Drilling Method: HS Auger	Size: 10"
Date Started: 11/23/94	Date Completed: 11/23/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 15 feet	Water Depth: none	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	4" PVC 0-10'	(.040) 10-15'	pea gray 9-15'	bent. 7-9'	neat 1-7'	"T" and cap	traffic	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0				0				3" Asphalt	
								1 - CLAY, sandy; drk. yell-brn; sl. plastic.	no odor
								3 - CLAY, silty, sandy; drk. red-brn. to red-blk.; sl. plastic.	no odor
5							CL		
								5 - CLAY, as above, gray mottling, probably from supply line leakage from old tank to island.	mod. odor
								7 - CLAY, v. silty, sandy; yell-brn; sl. plastic.	strong odor
10								9 - SAND, silty clayey lenses; med. yell-brn, dry.	strong odor
							SM		
							GM/ GP	13 - GRAVEL, poorly graded to 3", silty, sandy, dry.	mod. odor
15									

TD = 15 feet

Not sampled, five feet from existing sampled monitoring well.

20

25

30

35

40

GEOTRACKER ID#:T0604700211

BORING / WELL COMPLETION LOG

SVW - 2

Page 1 of 1

Client:	Superway Market		
Location:	9300 Hwy. 140, Planata, California	Contractor:	Frontier Drilling
Project :	Project #:	Drilling Method: HS Auger	Size: 8"
Date Started: 11/18/94	Date Completed: 11/18/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 15 feet	Water Depth: none	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC 0-10'	(.040) 10-15'	pea gr. 8½-15'	bent. 6½-8½'	neat +1-6½'	locking	steel riser	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
				6½" steel riser pipe w/ lock					
0								0-1 FILL	
								1 - CLAY, silty, sandy; drk. red-brn., tight.	no odor
5		cuttings	0				CL	5 - CLAY, silty, sandy; drk. red-brn., tight.	no odor
10			0				SC	10 - SAND, clayey, gravelly; drk. red-brn w/ blk. Mg staining; crumbly, micaceous, dry.	no odor
								12 - GRAVEL to 2", pred. 1 - 1½".	no odor
15			0					15 - SAND as above.	no odor
		no blow counts, overdrilled spoon						TD = 15 feet	
20									
25									
30									
35									

GEOTRACKER ID#:T0604700211

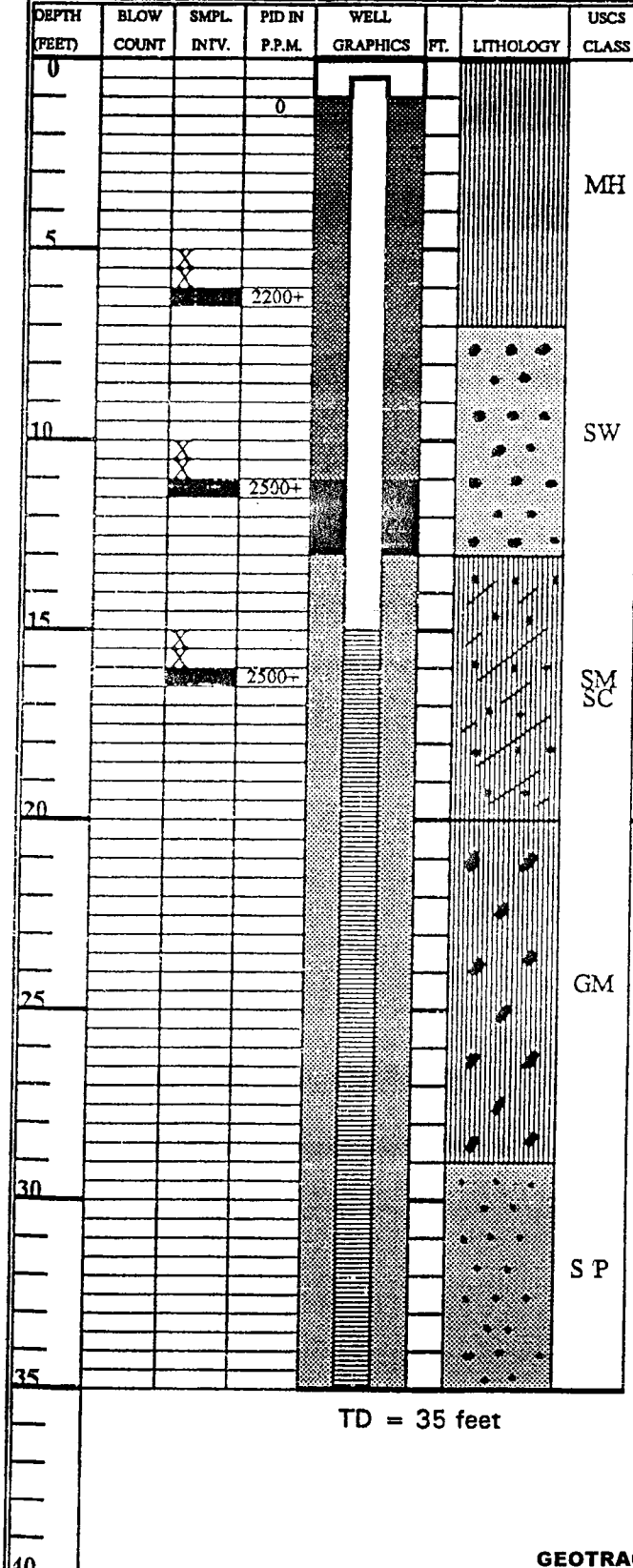
BORING / WELL COMPLETION LOG

MW - 1

Page 1 of 1

Client: Superway Market			
Location: 9300 Hwy. 140, Planata, California		Contractor: Osterberg & Stewart	
Project :	Project #:	Drilling Method: HS Auger	Size: 6 1/2"
Date Started: 11/16/93	Date Completed: 11/16/93	Elevation: -	Angle/Bearing: vert.
Total Depth: 35 feet	Water Depth: ~20 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2"PVC 0-15'	(.020) 15-35'	#3 13-35'	bent. 11-13'	neat 0-11'	yes	traffic	



LITHOLOGIC DESCRIPTION	REMARKS
0 - 3" Asphalt	
3" SILT, sandy, clayey; drk.-brn. w/ red staining, tight, sl. plastic.	no HC odor
5 SILT, v.v. sandy, sl. clayey, red-brn. to red. yell.-brn., sl. damp, micaceous, crumbly.	v. strong HC odor
10 SAND, med.-gr.; drk. yell.-brn. w/ red staining, clean, loose, well-sorted.	strong HC odor
15 SAND, silty, clayey; gray-green w/ beige to red-brn. lenses; med.-gr., micaceous, gravel layers making sample recovery poor.	strong HC odor
▽ ~WT	
20 SAND, silty; med.-gr.; bluish-gray on drill bit. - Gravel layers, cobbles - No sample attempt at 20', caving, binding the augers, - Air monitoring w/ PID in drilling area < 1 ppm	20' sl. odor on bit w/ wet sand.

TD = 35 feet

SAMPLES TAKEN FROM THIRD LINER OF A 2 1/2" CA. MOD. SPLIT SPOON SAMPLER OVER-DRILLED WITH WIRELINE SAMPLER BY WALLY WITH OSTERBERG & STEWART

GEOTRACKER ID#:T0604700211

BORING / WELL COMPLETION LOG

MW - 2

Page 1 of 1

Client: Superway Market			
Location: 9300 Hwy. 140, Planata, California		Contractor: Osterberg & Stewart	
Project :	Project #:	Drilling Method: HS Auger	Size: 7 1/4"
Date Started: 2/16/94	Date Completed: 2/16/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 35 feet	Water Depth: ~21 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC 0-13'	(.020) 13-33'	#3 sand 11-35'	bent. 9-11'	neet 0-9'	locking	traffic	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0								4"Asphalt	
								1 CLAY, silty, sandy, gravelly; drk. brn.; tight, sl. plastic (fill).	no odor
5							CL		
								6 CLAY, silty, sandy, gravelly; drk. yell-brn. to red-brn., tight, sl. plastic.	no odor
10									
			0					12 SILT, v. sandy; lt. red-brn.; dry, tight, white calc. blebs & frac. fillings, micaceous.	no odor
							ML		
15								15 SAND, silty.; red-brn.; partly cemented lenses, dirty, crumbly, sl. damp.	no odor
			0					17 GRAVEL, loose, clean, poor sorting, to 4" cobbles, caving, rough drilling.	no odor
20									
	ROCKS, GRAVEL NO ATTEMPT						GP	too coarse to sample, no cuttings returned to surface	
								------w.l. 2/17/94	
25								25 SAND, pea gravel, occ. cobble, saturated, caving, loose.	no odor
			0						
	POOR RETURN, COBBLES						SP		
30									
								lost bottom 2 feet to caving gravels/sand	
35									
40									

TD = 35 FT.

GEOTRACKER ID#:T0604700211

FORM: WELLOG.XLS

BORING / WELL COMPLETION LOG

MW - 3

Page 1 of 1

Client: Superway Market			
Location: 9300 Hwy. 140, Planata, California		Contractor: Osterberg & Stewart	
Project :	Project #:	Drilling Method: HS Auger	Size: 7 1/4"
Date Started: 2/17/94	Date Completed: 2/17/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 35 feet	Water Depth: ~22 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC 0-12'	(.020) 12-32'	#3 sand 9-32'	bent. 7-9'	neet cem. 0-7'	locking	traffic	

DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	WELL GRAPHICS	FT.	LITHOLOGY	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
0							CL	1 CLAY, silty; drk.-brn. w/ white calc. lenses, tight, hard.	no odor
5									
							SM	6 SAND, f. to med.grnd., silty; yell.-brn.; dry, loose, occ. brn. clay lam., loose, micaceous, roots, thin organic lam. w/ red oxid. staining.	no odor
10			0						
15	NO RECOVERY, ROCKS						GP	15 GRAVEL, COBBLES, sandy, rough drilling; no sample recovery - gravel too big for spoon.	no odor
20	NO RECOVERY, CAVING							20 no sample recovery, no cuttings returned from below 20 feet	
								------w.l. ~22 feet	
25							SP	bit sample - SAND, v.f. to med. grnd., poor sorting, quiet drilling (clean).	no odor
30									
								bottom 3 feet sloughted in, hard time setting casing.	
35									
				TD = 35 FEET					
40									

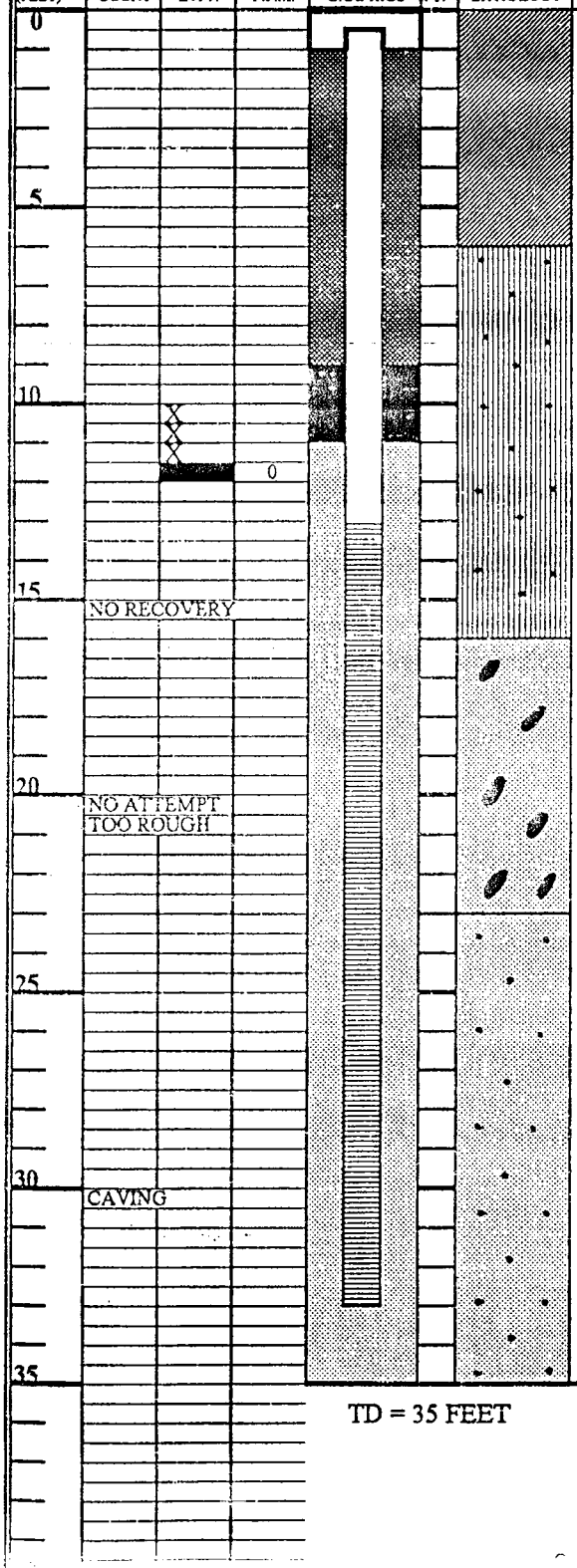
BORING / WELL COMPLETION LOG

MW - 4

Page 1 of 1

Client: Superway Market			
Location: 9300 Hwy. 140, Planata, California		Contractor: Osterberg & Stewart	
Project :	Project #:	Drilling Method: HS Auger	Size: 7 1/4"
Date Started: 2/18/94	Date Completed: 2/18/94	Elevation: -	Angle/Bearing: vert.
Total Depth: 35 feet	Water Depth: ~22 feet	Logged By: L. Smith	Reviewed:

WELL DATA	Casing	Screen	Filter	Seal	Grout	Well Cap?	Box?	Other?
	2" PVC 0-13'	(.010) 13-33'	#3sand 11-33'	bent. 9-11'	neet 0-9'	locking	traffic	



DEPTH (FEET)	BLOW COUNT	SMPL. INTV.	PID IN P.P.M.	FT.	USCS CLASS	LITHOLOGIC DESCRIPTION	REMARKS
				1	CL	CLAY, sl. silty, sl. sandy, gravelly; drk. reddish-black to drk.-brn., v. tight, v. sl. plastic.	no odor
				6	SM	SAND, v. silty, sl. clayey; drk. yell.-brn.; sl. plastic, micaceous.	no odor
			0	10		SAND, f. to med. grnd., silty, sl. clayey; drk. yell.-brn. to red-brn.	no odor
				12		SAND, f. to med. grnd., loose, dry, drk. yell.-brn. to red-brn.	no odor
	NO RECOVERY			16	GP	GRAVEL (to 4"); pred. 1 1/2", sandy, silty; rough drilling, too coarse to sample.	no odor
						~w.l.	
	NO ATTEMPT TOO ROUGH			23	SP	SAND, v.f. to med. grnd., heaving	no odor on center bit
	CAVING					bottom 2 feet caved in, trouble setting casing.	

TD = 35 FEET

WHF, INC., P.O. BOX 576729, MODESTO, CA 95357-6729

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146

LOG OF BORING B-1

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By:	: Prosonic Corporation	Total Depth:	: 29 Feet
Drill Method:	: Direct Push 6610		
Date:	: 1/27/04		
Hole Size:	: 2.5-inch		
Geologist:	: H.J.		

Boring: B-1
Elev.:

Sample Condition
- Remoulded
- Undisturbed
- Not Recovered
- Rock Core

Water Levels
- During Drilling
- After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY SAND (SM), orange brown, fine, loose, moist.
5	B-1 5'					
						SILTY SAND (SM), dark brown, fine to medium, medium dense, moist.
10	B-1 10'					
						SANDY SILT (ML), dark gray, firm, moist.
15	B-1 15					
						SILTY SAND (ML), very light gray, fine to medium, damp.
20	B-1 20'					
						SANDY SILT (ML), gray, fine, medium dense, moist.
25	B-1 25'					SAND (SP), brown, fine to medium, saturated.
30	B-1 29'					Total Depth 29 Feet. Groundwater @ 26 Feet. No caving and no odor.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech5321\Wallace Transport\B-1.BOR

GEOTRACKER ID#:T0604765838

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hellmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146

LOG OF BORING B-2

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 25 Feet

Boring: B-1
Elev.:

Sample Condition
- Remoulded
- Undisturbed
- Not Recovered
- Rock Core

Water Levels
- During Drilling
- After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY SAND (SM), orange brown, fine, loose, moist.
5	B-1 5'					
						SILTY SAND (SM), dark brown, fine to medium, medium dense, moist.
10	B-1 10'					
15	B-1 15					SANDY SILT (ML), dark gray, firm, moist.
20	B-1 20'					SILTY SAND (ML), very light gray, fine to medium, damp.
						SANDY SILT (ML), gray, fine, medium dense, moist.
25	B-1 25'					SAND (SP), brown, fine to medium, saturated.
30	B-1 29'					Total Depth 29 Feet. Groundwater @ 26 Feet. No caving and no odor.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-2.BOR

GEOTRACKER ID#:T0604765838

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146

LOG OF BORING B-3

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 27 Feet

Boring: B-3
Elev.:

Sample Condition
- Remoulded
- Undisturbed
- Not Recovered
- Rock Core

Water Levels
- During Drilling
- After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY CLAY (CL-MH), black, soft, slightly plastic, moist.
5	B-3 5'					SILTY SAND (SM), orange brown, fine, loose, moist.
10	B-3 10'					Slightly subrounded gravel to 1/4" Dia.
						SILTY SAND (SM), btown, fine to medium grained, loose, moist.
15	B-3 14'					SANDY SILT (SM-ML), orange brown, fine, firm, moist.
	B-3 18'					SILTY SAND (SM), gray, fine, medium dense, moist.
20						SILTY SAND (SM), gray, fine to medium, loose, moist.
	B-3 22'					Abundant gravel quartz angular to 1/2" dia, green and black and maroon.
25	B-3 27'					SAND (SW), orange brown, fine to medium, saturated.
30						Total Depth 27 Feet. Groundwater @ 26 Feet.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-3.BOR

GEOTRACKER ID#:T0604765838

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San Bernardino, CA 92407
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LOG OF BORING B-4

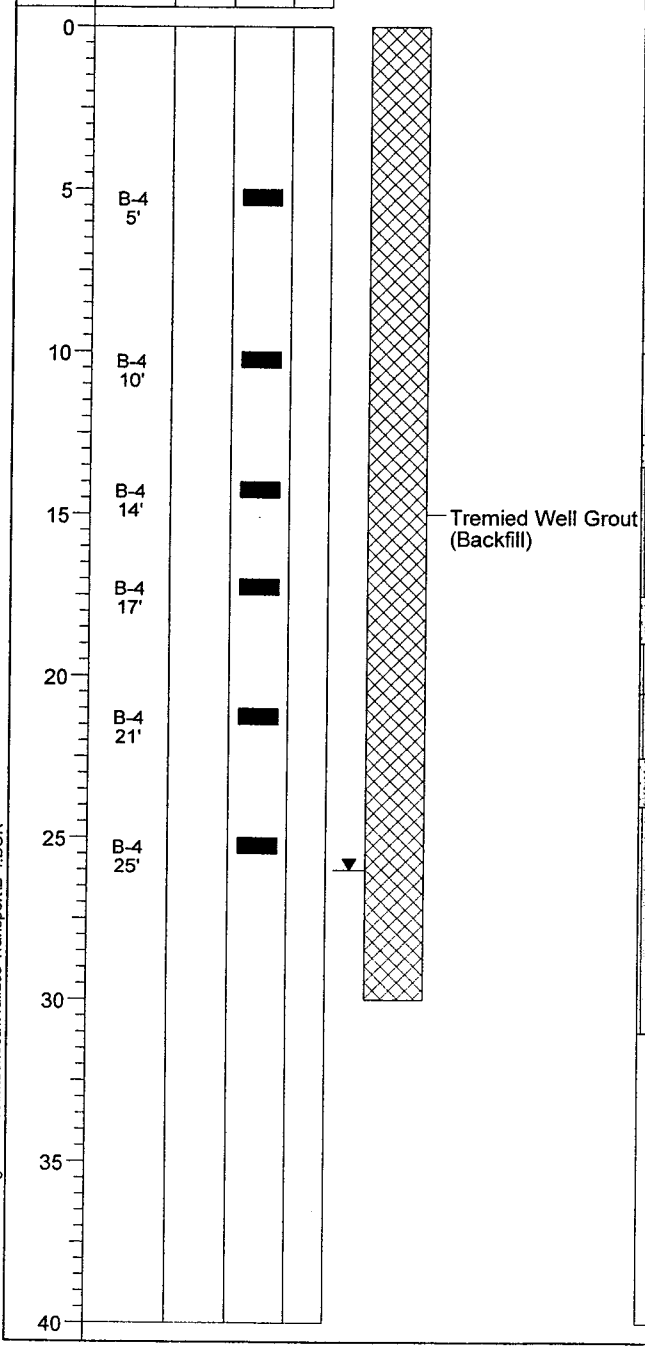
Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 27 Feet

Boring: B-4
Elev.:

Sample Condition
- Remoulded
- Undisturbed
- Not Recovered
- Rock Core

Water Levels
- During Drilling
- After Completion



DESCRIPTION

3 " Asphalt

SILTY SAND (SM), gray, fine, loose, moist.

SILTY CLAY (CL-MH), very dark brown, soft, slightly plastic, moist.

SILTY CLAY (CL-MH), light brown, soft, slightly plastic, moist.

SANDY SILT (SM-ML), gray, fine, moist.

SILT (ML), gray, soft, moist.

GRAVELLY SAND (GW), light brown, slightly moist.

SILTY SAND (SM), gray, fine, medium dense, moist.

SILTY SAND (SM), gray, fine, moist.

GRAVELLY SAND (GW), light gray, gravel is subrounded to 1/4" dia. slightly moist.

SILT (ML), gray, moist.

SILTY SAND (SM), gray, fine, moist.

GRAVELLY SAND (GW), gray, gravel is angular to 1/4" dia., slightly moist.

SILTY SAND (SM), gray, fine, loose, very moist.

Drove point to 30 Feet. No Sample.

Total Depth 30 Feet. Groundwater @ 26 Feet.

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-4.BOR

GEOTRACKER ID#:T0604765838

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4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1348

LOG OF BORING B-1

(Page 1 of 1)

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 29 Feet

Boring: B-1
Elev.:

Sample Condition: Remoulded; Undisturbed; Not Recovered; Rock Core

Water Levels: During Drilling; After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY SAND (SM), orange brown, fine, loose, moist.
5	B-1 5'					
						SILTY SAND (SM), dark brown, fine to medium, medium dense, moist.
10	B-1 10'					
15	B-1 15					SANDY SILT (ML), dark gray, firm, moist.
20	B-1 20'					SILTY SAND (ML), very light gray, fine to medium, damp.
						SANDY SILT (ML), gray, fine, medium dense, moist.
25	B-1 25'					SAND (SP), brown, fine to medium, saturated.
30	B-1 29'					Total Depth 29 Feet. Groundwater @ 26 Feet. No caving and no odor.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-1.BOR

GEOTRACKER ID#:T0604765838

Geo-Cal, inc.
Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 880-1146

LOG OF BORING B-2

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 25 Feet

Boring: B-1
Elev.:

Sample Condition: Remoulded; Undisturbed; Not Recovered; Rock Core
Water Levels: During Drilling; After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY SAND (SM), orange brown, fine, loose, moist.
5	B-1 5'					
						SILTY SAND (SM), dark brown, fine to medium, medium dense, moist.
10	B-1 10'					
15	B-1 15					SANDY SILT (ML), dark gray, firm, moist.
20	B-1 20'					SILTY SAND (ML), very light gray, fine to medium, damp.
						SANDY SILT (ML), gray, fine, medium dense, moist.
25	B-1 25'					SAND (SP), brown, fine to medium, saturated.
30	B-1 29'					Total Depth 29 Feet. Groundwater @ 26 Feet. No caving and no odor.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-2.BOR

GEOTRACKER ID#:T0604765838

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Environmental & Geotechnical Engineering
4370 Hallmark Parkway, Suite 101
San Bernardino, CA 92407
(909) 890-1146

LOG OF BORING B-3

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 27 Feet

Boring: B-3
Elev.:

Sample Condition: Remoulded; Undisturbed; Not Recovered; Rock Core

Water Levels: During Drilling; After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY CLAY (CL-MH), black, soft, slightly plastic, moist.
5	B-3 5'					SILTY SAND (SM), orange brown, fine, loose, moist.
10	B-3 10'					Slightly subrounded gravel to 1/4" Dia.
						SILTY SAND (SM), btown, fine to medium grained, loose, moist.
15	B-3 14'					SANDY SILT (SM-ML), orange brown, fine, firm, moist.
	B-3 18'					SILTY SAND (SM), gray, fine, medium dense, moist.
20						SILTY SAND (SM), gray, fine to medium, loose, moist.
	B-3 22'					Abundant gravel quartz angular to 1/2" dia, green and black and maroon.
25	B-3 27'					SAND (SW), orange brown, fine to medium, saturated.
						Total Depth 27 Feet. Groundwater @ 26 Feet.

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-3.BOR

GEOTRACKER ID#:T0604765838

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Environmental & Geotechnical Engineering
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San Bernardino, CA 92407
(909) 880-1146

LOG OF BORING B-4

Wallace Transport
9290 East Highway 140
Planada, CA

Drilled By: : Prosonic Corporation
Drill Method: : Direct Push 6610
Date: : 1/27/04
Hole Size: : 2.5-inch
Geologist: : H.J.
Total Depth: : 27 Feet

Boring: B-4
Elev.:

Sample Condition: Remoulded; Undisturbed; Not Recovered; Rock Core

Water Levels: During Drilling; After Completion

Depth in feet	Sample ID	OVA (ppm)	Samples	Blow Count	GRAPHIC	DESCRIPTION
0						3 " Asphalt
						SILTY SAND (SM), gray, fine, loose, moist.
						SILTY CLAY (CL-MH), very dark brown, soft, slightly plastic, moist.
						SILTY CLAY (CL-MH), light brown, soft, slightly plastic, moist.
5	B-4 5'					SANDY SILT (SM-ML), gray, fine, moist.
10	B-4 10'					SILT (ML), gray, soft, moist.
						GRAVELLY SAND (GW), light brown, slightly moist.
15	B-4 14'					SILTY SAND (SM), gray, fine, medium dense, moist.
	B-4 17'					SILTY SAND (SM), gray, fine, moist.
						GRAVELLY SAND (GW), light gray, gravel is subrounded to 1/4" dia. slightly moist.
20	B-4 21'					SILT (ML), gray, moist.
						SILTY SAND (SM), gray, fine, moist.
						GRAVELLY SAND (GW), gray, gravel is angular to 1/4" dia., slightly moist.
25	B-4 25'					SILTY SAND (SM), gray, fine, loose, very moist.
30						Drove point to 30 Feet. No Sample.
						Total Depth 30 Feet. Groundwater @ 26 Feet.
35						

Tremied Well Grout (Backfill)

05-17-2004 C:\Program Files\mtech532\Wallace Transport\B-4.BOR

GEOTRACKER ID#:T0604765838

Geological Technics Inc.

LOG OF BORING SG-1

(Page 1 of 1)

Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Well: S6-1
Elev.:

Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				CLAY-brown, plastic, damp, stiff		CL	
				CLAY-red, dry, sandy		SC	
		1245		SILTY SAND-clayey, red to brown, damp, loose, fine to medium grained		ML	
				SILT-clayey, brown, moist, loose, fine grained		ML	
5		1253					

Tubing

FILTER PACK

Probe Tip

12-10-2008

GEOTRACKER ID#:T0604734463

Geological Technics Inc.

LOG OF BORING SG-1

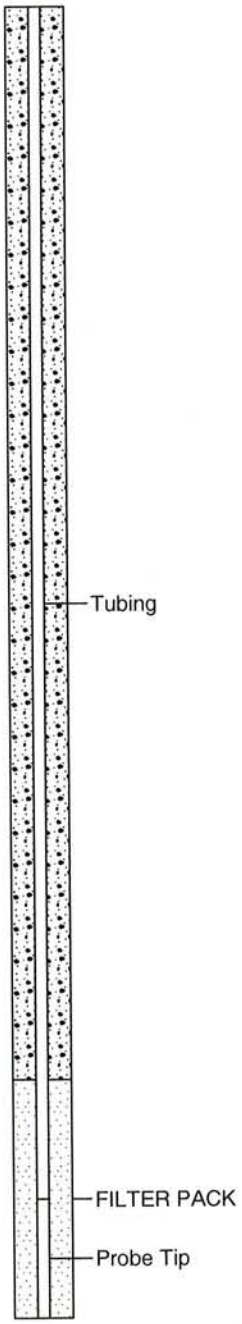
Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				CLAY-brown, plastic, damp, stiff		CL	
		1245		CLAY-red, dry, sandy		SC	
				SILTY SAND-clayey, red to brown, damp, loose, fine to medium grained		ML	
				SILT-clayey, brown, moist, loose, fine grained		ML	
5		1253					

Well: SG-1
Elev.:



01-20-2009

GEOTRACKER ID#:T0604734463

Geological Technics Inc.

LOG OF BORING SG-2

Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Well: S6-2
Elev.:

Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				SILTY-SAND-brown, fine grained, moist		ML	
				CLAY-brown, moist, stiff, plastic			
		1200				CL	
				SANDY CLAY-red, coarse grained, silty, clayey		SC	
				SILTY CLAY-brown, fine grained, damp			
						ML	
5		1230					

Tubing
FILTER PACK
Probe Tip

12-10-2008

GEOTRACKER ID#:T0604734463

Geological Technics Inc.

LOG OF BORING SG-3

Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Well: SG-3
Elev.:

Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				FILL-brick			
		1100		CLAY-brown, wet, stiff, plastic		CL	
				SILTY-SAND-red to brown, coarse grained, moist		ML	
				CLAY-brown, non-plastic, moist		ML	
		1125					
5							

Tubing
FILTER PACK
Probe Tip

01-20-2009

GEOTRACKER ID#:T0604734463

Geological Technics Inc.

LOG OF BORING SG-4

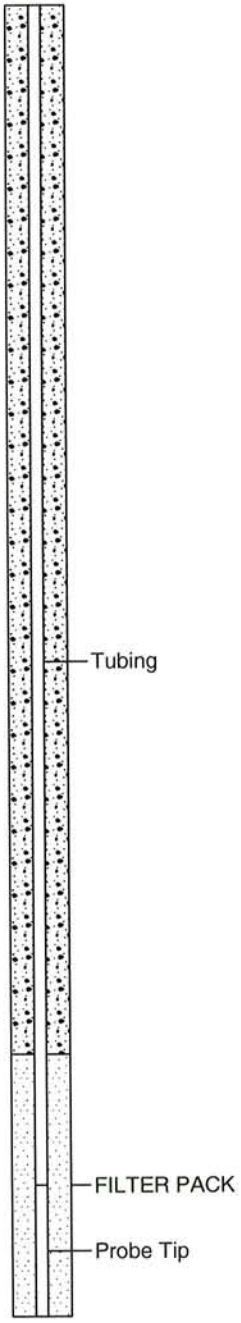
Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				FILL-brick			
		1100		CLAY-brown, wet, stiff, plastic		CL	
				SILTY-SAND-red to brown, coarse grained, moist		ML	
				CLAY-brown, non-plastic, moist		ML	
		1125					
5							

Well: SG-4
Elev.:



01-20-2009

GEOTRACKER ID#:T0604734463

Geological Technics Inc.

LOG OF BORING SB-7

(Page 1 of 1)

Grayson (Broadway)
9261 Broadway
Planada, California

Project No.: 1166.2

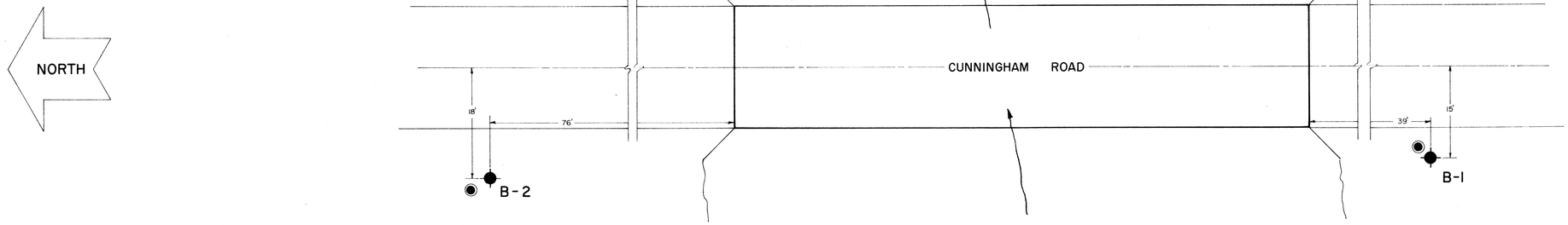
Date : 01-28-2008
Drilling Method : Geo Probe
Driller : V & W
Logged By : Daniel Villanueva

Well: SB-7
Elev.:

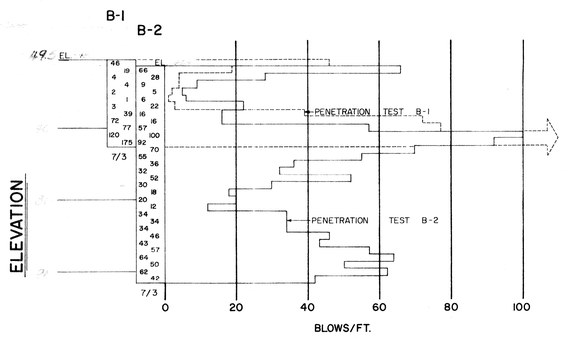
Depth in Feet	Lab Sample	Time	Blow Count	DESCRIPTION	GRAPHIC	USCS	OVM (ppm)
0				SILT-brown, fine-grained, moist loose		ML	
				CLAY-brown, firm, moist plastic		CL	
		1310		SANDY-CLAY-red to brown, fine-grained matrix, clayey		SC	
				SILT-brown, loose, moist, damp, fine-grained		ML	
5				SILT-dark brown, fine-medium grained, slighlty plastic, clayey		ML	
				GRAVELY-SAND-quartz fragments present, sand is brown and fine-medium grained,		GM	
		1315		CLAYEY-SILT- green top 2" is very hard, brittle, moist, semi-plastic to plastic, very strong odor		ML	
10				CLAYEY-SILT-Green, fine grained, wet, firm, sandy, strong odor present		ML	
15		1330					
20							

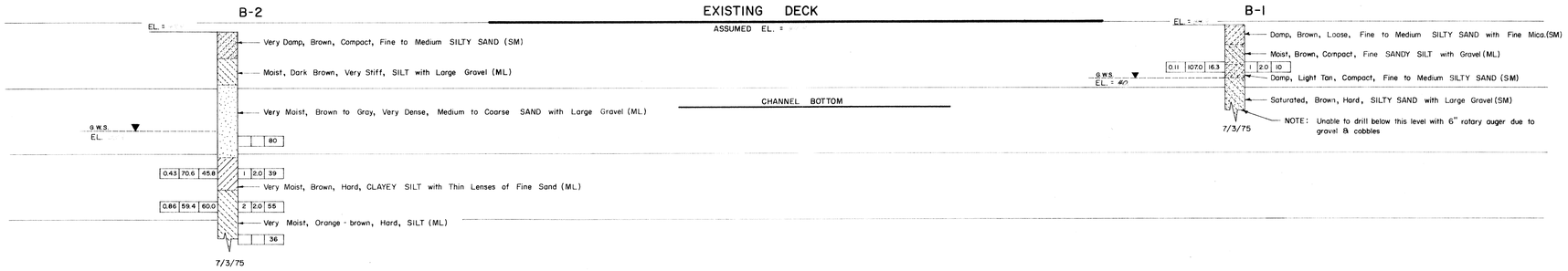
05-28-2009

GEOTRACKER ID#:T0604734463



PLAN VIEW



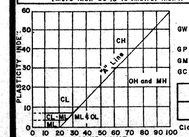


PROFILE

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

PT	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12 % fines		Clean sands <5 % fines		Gravels with fines >12 % fines		Clean gravels <5 % fines	
							Sands - more than 50% of coarse fraction is smaller than № 4 sieve		Gravels - more than 50 % of coarse fraction is larger than № 4 sieve					
	Fine grained soils (More than 50 % is smaller than № 200 sieve)						Coarse grained soils (More than 50 % is larger than № 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW and 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 2.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)		Fine sand		Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"		

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

Gravel; Sand; Silt; Clay; Sandy clay or clayey sand; Sandy silt or silty sand; Silty clay or clayey silt; Peat or Organic matter; Fill material; Shale; Sandstone; Limestone; Metamorphic rock; Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

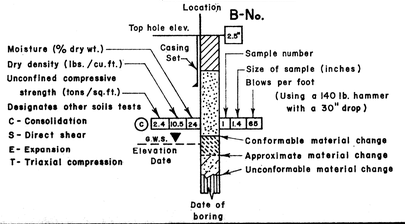
According to the Standard Penetration Test

№ of blows	Granular	Cohesive
0 - 5	Very loose	Very soft
6 - 10	Loose	Soft
11 - 20	Semicompact	Stiff
21 - 35	Compact	Very stiff
36 - 70	Dense	Hard
>70	Very dense	Very hard

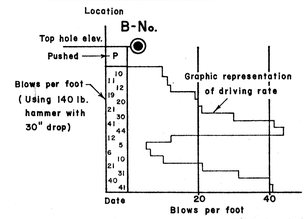
LEGEND OF BORING OPERATIONS

Plan of any boring; Rotary boring; Diamond core boring; Auger boring; Sample boring; Jet boring; Test pit; 2 1/4 " Cone penetrometer; 2 1/2 " Cone penetrometer

ROTARY BORING



PENETRATION TEST



LOG OF BORINGS AND TEST DATA for

PROPOSED BRIDGE ON CUNNINGHAM RD. (RD. 589)

AT STATION 218 OVER MARIPOSA CR.

MERCED COUNTY, CALIF.

THE FOUNDATION ENGINEERS INC.

(Subsidiary of The Twining Laboratories Inc.)

2527 Fresno St. Fresno, Calif.

1507 G. St. Modesto, Calif.

Examination No.	Scale: 1" = 10'	Drawn by	Drawing No.
109 - 75 - 7891	Date: 9 / 5 / 75	Approved by	6 of 6

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-3

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

ENVIRONMENTAL

irwin

335 Grogan Ave
Merced, CA 95340

BORING LOG

Drill Rig: B-57	Date Drilled: 5-12-94	Logged By: M. Luksic
Boring Dia: 10"	Boring Number: MW-1	

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
		5				GW	**1" GRAVEL AND SAND** **1" GRAVEL FILL** **1" GRAVEL FILL**
	3-5-50/2"	15				GC	**SANDY CLAYEY GRAVEL**, light brown, moist, hard pan-perched water, HYDROCARBON ODOR, OVM 150 ppm
	6-5-6	20				SP	**GRAVELLY CLAYEY SAND**, light brown, moist, HYDROCARBON ODOR, OVM 800 ppm
	6-8-36	25				ML	**SANDY SILT**, light brown, moist, HYDROCARBON ODOR, OVM >1000 ppm
	14-21-28	30					**SANDY SILT**, light brown, moist, no plasticity, OVM 600 ppm
	10-13-22	35				CL	**CLAYEY SANDY SILT**, light brown-gray, dry, moist, slightly plastic, OVM 400 ppm
	9-13-20	40					**CLAYEY SILT**, light brown, dry, slightly plastic, OVM 700 ppm
	15-29-40	45					**CLAYEY SANDY SILTS**, light brown, dry, slightly plastic, OVM >1000 ppm
	19-17-20	50				SM	**SAND**, with clay lense, black-red, poorly sorted, moist, nonplastic, OVM 100 ppm
	12-17-24	55					**SILTY SAND**, black-red, moist, HYDROCARBON ODOR, OVM

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 107-82', blank: 82-0'. Backfilled with #3 Monterey sand: 107-81', bentonite clay: 81-76', cement grout: 76-1', then set 12" well box in concrete at surface.

▽ ▼

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. 33186.00

GEOTRACKER ID#:T0604700198

ENVIRONMENTAL
irwin
335 Grogan Ave
Merced, CA 95340

BORING LOG

Drill Rig: B-57	Date Drilled: 5-12-94	Logged By: M. Luksic
Boring Dia: 10"	Boring Number: MW-1	

Sample Type / Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type		Description and Remarks
							100 ppm
25-50/3"	60					ML	**SILT**, black-brown-red, moist, very tight, HYDROCARBON ODOR, OVM 35 ppm
32-50/3"	65					SM	**SILTY SAND**, poorly sorted, moist, very tight, HYDROCARBON ODOR, OVM 90 ppm
42-50	70					ML	**SANDY SILT**, with pumice, poorly sorted, moist, very tight, OVM 70 ppm
35-50	75						**SANDY SILT**, light gray, well sorted, moist-dry, very tight, OVM 55 ppm
24-38-40	80					SM	**SILTY SAND**, with coarse sand, light gray, well sorted thin lenses, moist, NO ODOR, OVM 15 ppm @ 82' very hard layer
42-50/2"	85					CL	**CLAYEY SANDY SILT**, very dense, nonplastic, moist-dry, 1" quartzite fragments in return material, OVM 14 ppm
39-50/2"	90					SC	**SILTY SANDSTONE FRAGMENTS**, clayey sand, wet (water table), OVM 0 ppm
41-50/4"	95					SM	**SILTY SANDSTONE FRAGMENTS**, water, well sorted
	100					SM	**SILTY SANDSTONE FRAGMENTS**, wet, well sorted
	105						Total depth 107 feet.

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 107-82', blank: 82-0'. Backfilled with #3 Monterey sand: 107-81', bentonite clay: 81-76', cement grout: 76-1', then set 12" well box in concrete at surface.

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. 33186.00

GEOTRACKER ID#:T0604700198

ENVIRONMENTAL

iTwin

335 Grogan Ave
Merced, CA 95340

BORING LOG

Drill Rig: B-57	Date Drilled: 5-12-94	Logged By: M. Luksic
Boring Dia: 10"	Boring Number: MW-2	

Sample Type / Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
					GW GC	**1" GRAVEL ROAD BASE**
7-8-23	5					**CLAYEY SILTY GRAVEL** to 1" diameter, dark brown, dry, NO ODOR, OVM 0 ppm
7-4-6	10				SP	**GRAVELLY COARSE SAND**, to 1", light brown, dry, NO ODOR, OVM 0 ppm
5-5-7	15				CL	**CLAYEY SANDY SILT**, light tan-brown, moist (wet), slightly plastic, NO ODOR, OVM 0 ppm
5-7-9	20					**SANDY CLAY**, light tan-brown, moist (wet), slightly plastic, NO ODOR, OVM 0 ppm
13-19-26	25				ML	**SANDY SILT**, dark brown, moist, no plasticity, NO ODOR
15-19-27	30					**SANDY SILT**, dark brown, dry-moist, NO ODOR, OVM 0 ppm
7-12-27	35				CL	**CLAYEY SILT**, dark brown, moist, slightly plastic, OVM 0 ppm
10-15-35	40					**CLAYEY SILT**, dark brown, moist, slightly plastic, NO ODOR, OVM 0 ppm
10-24-38	45					**SANDY SILT**, dark brown, moist, nonplastic
32-50/2"	50				SM	**MEDIUM SAND**, quartz, dark minerals, dry, well sorted, NO ODOR, OVM 0 ppm
24-50	55				CL	**CLAYEY SILT** with pumice, light brown with white, dry, dark

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 110-85', blank: 85-0'. Backfilled with #3 Monterey sand: 110-83', bentonite clay: 83-78', cement grout: 78-1', then set 12" well box in concrete at surface.

▽ ▼

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. 33186.00

GEOTRACKER ID#:T0604700198

ENVIRONMENTAL

BORING LOG

335 Grogan Ave
Merced, CA 95340

Drill Rig: B-53	Date Drilled: 5-12-04	Logged By: M. Luksic
Boring Dia: 10"	Boring Number: MW-2	

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
							organic strata, NO ODOR, OVM 0 ppm
	16-32 50/4"	60				ML	**SANDY SILT**, light brown with red and white coarse sand, moist, NO ODOR
	21-30-50/4"	65				CL	**CLAYEY SILT**, light brown, dry, stiff, NO ODOR, OVM 0 ppm
	13/50	70					**CLAYEY SILT**, light brown, dry, stiff, NO ODOR, OVM 0 ppm
	14-28-46	75				SM	**SILTY SAND**, poorly sorted, dark minerals, dry, NO ODOR
	17-50	80					**SILTY SAND** with clay, lenses, poorly sorted, dark minerals, dry, NO ODOR
	17-20-35	85				CL	**CLAYEY SILT**, dark brown, dry, stiff, nonplastic, OVM 0 ppm
	25-80	90				ML	**SANDY SILT**, light brown, wet, stiff, NO ODOR, OVM 0 ppm
		95					**SANDY SILT**, light brown, wet, stiff, NO ODOR, OVM 0 ppm
		100					**SANDY SILT**, light brown, wet, stiff, NO ODOR, OVM 0 ppm
		105					**SANDY SILT**, light brown, wet, stiff, NO ODOR, OVM 0 ppm
		110					**SANDY SILT**, light brown, wet, stiff, NO ODOR, OVM 0 ppm
							Total depth 110 feet.

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 110-85', blank: 85-0'. Backfilled with #3 Monterey sand: 110-83', bentonite clay: 83-78', cement grout: 78-1', then set 12" well box in concrete at surface.

▽ ▼

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. 33102.00

GEOTRACKER ID#:T0604700198

ENVIRONMENTAL

335 Grogan Ave
Merced, CA 95340

BORING LOG

Drilling Co.: B-57	Date Drilled: 5-12-94	Logged by:
Boring Dia.: 10"	Boring Number: MW-3	M. Luksic

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
						GC	**4" CONCRETE DRIVEWAY**
■	7-10-28	5					**SANDY GRAVEL FILL** to 11", dry, brown, NO ODOR, OVM 0 ppm
■	8-26-50	10					**SANDY GRAVEL** to 2", dry, hard, NO ODOR, OVM 0 ppm
■	3-4-6	15				CL	**CLAYEY SILT**, white-tan, moist, NO ODOR, OVM 0 ppm
■	8-16-20	20					**CLAYEY SILT**, dark brown, moist, NO ODOR, OVM 0 ppm
■	18-24-36	25					**CLAYEY SILT**, dark brown, well sorted, NO ODOR, OVM 25 ppm
■	11-19-25	30					**CLAYEY SILT**, dark brown, moist, well sorted, nonplastic, NO ODOR, OVM 20 ppm
■	8-13-22	35					**CLAYEY SILT**, dark brown, moist, well sorted, nonplastic, NO ODOR, OVM 22 ppm
■	11-29-46	40					**CLAYEY SILT**, dark brown, moist, well sorted, nonplastic, NO ODOR, OVM 19 ppm
■	26-40-37	45					**CLAYEY SILT**, dark brown, moist, well sorted, nonplastic, NO ODOR, OVM 25 ppm
■	17-25-33	50				SM	**SILTY SAND** with pumice, dark brown, moist, poorly sorted, dense, NO ODOR, OVM 22 ppm
■	21-34-	55					**SILTY SAND** with pumice, dark brown, moist, well sorted, OVM 10

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 110-85', blank: 85-0'. Backfilled with #3 Monterey sand: 110-83', bentonite clay: 83-78', cement grout: 78-1', then set 12" well box in concrete at surface.

▽ ▼

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. [illegible]

GEOTRACKER ID#:T0604700198

ENVIRONMENTAL

335 Grogan Ave
Merced, CA 95340

BORING LOG

Boring Diameter: 10"

Boring Number: MW-3

Logged by: M. Luksic

Sample Type	Sample Blow Count	Depth Feet	Well Const.	Casing (in.) 10 20	Elev. Feet	Soil Type	Description and Remarks
	50/4"	60					ppm
	23-50						**SILTY SAND** with red-brown, dry, very dense, NO ODOR, OVM 16 ppm
	28-50	65				CL	**CLAYEY SILT**, with pumice, white-brown, very dense, dry, no plasticity, NO ODOR, OVM 10 ppm
	27-50	70					**CLAYEY SILT**, light brown, dry, no plasticity, OVM 10 ppm
	25-30-31	75				SM	**SILTY SAND**, with clay fragments, quartz sand with dark minerals, moist, NO ODOR, OVM 10 ppm
	31-50/5"	80					**SILTY SAND**, with clay fragments, quartz sand with dark minerals, moist, NO ODOR, OVM 10 ppm
	35-50/2"	85					**SILTY SAND**, with clay fragments, quartz sand with dark minerals, moist, NO ODOR, OVM 30 ppm
	50/5.5"	90				SP	**MEDIUM SAND** with gravel fragments, black, OVM 15 ppm
		95				CL	**CLAYEY SILT**
		100					**CLAYEY SILT**
		105					**CLAYEY SILT**
		110					**CLAYEY SILT**
							Total depth 110 feet.

Completion Notes:

Set 4" schedule 40 PVC casing, 0.02" slotted: 110-85', blank: 85-0'. Backfilled with #3 Monterey sand: 110-83', bentonite clay: 83-78', cement grout: 78-1', then set 12" well box in concrete at surface.

▽ ▼

SITE:

Thurman Distributors
3853 South Santa Fe Avenue
Le Grand, California

Project No. 33186.00

GEOTRACKER ID#:T0604700198

DATE STARTED:	8/29/95	SURFACE CONDITIONS:	Asphalt
DATE COMPLETED:	8/29/95	SURFACE ELEVATION:	
DRILLING EQUIPMENT:	Hollow Stem Auger	COORDINATES:	
DRILLING CONTRACTOR:	MDE, Inc.	GROUNDWATER CONDITIONS:	
LOGGED BY:	Tim K. Smith		
TOTAL DEPTH:	61.5	CASING DEPTH:	
BORING DIAMETER:	8"	FILTER PACK:	SLOT SIZE:

REMARKS	FIELD WELL	FIELD SAMP. NO.	FIELD FIELD READ.	FIELD BLOWS / 6"	FIELD SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
OVA begining at 0830 1ppm (Field readings in Parts Per Million)						2		0 - 3" Asphalt **Sandy Loam (SM)**- Brown
						4		
						6		
						8		
			1.1	11	SPT			
				14				
		4-10		50		10		Cobbles (GP) Became Hard @ 10' Sandy Gravel W/Cobbles
0840						12		
			1.0	50/6"	SPT	14		
		4-15						

STE
SUN TECH ENVIRONMENTAL

Le Grand Union High School
12961 East Le Grand Road, Le Grand, CA 95333

LOG OF SB-4

Figure 1

Sheet 1 of 3

PROJECT NO.

GEOTRACKER ID#:T0604700184

REMARKS	WELL	SAMP. NO.	FIELD READ.	BLOWS/6"	SAMP. TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
Sample middle tube						16		
						18		
			1.0	50/6"	SPT			
		4-20				20		
			4.2	20	SPT			
				22		22		
		4-23		25				
No odor								Fine Silty Clay- Brown buff (ML-CL)
			1.1	20	SPT	24		
				23				
		4-25		25				
No odor, damp						26		
						28		
			2.0	14	SPT			
				17				
		4-30		22		30		
No odor								
						32		
			4.0	17	SPT			
				20		34		
		4-35		22				
Weak odor								Grey ML-CL
						36		
						38		
			5.0	20	SPT			
				25				
		4-40		27				

STE

SUN TECH ENVIRONMENTAL

PROJECT NO.

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

LOG OF SB-4

Figure 2

Sheet 2 of 2

GEOTRACKER ID#:T0604700184

REMARKS	FIELD				DEPTH (ft)	USCS	SOIL DESCRIPTION
No odor					42		ML-MH with specs of manganese
		1.2	17 20	SPT	44		
	4-45		25				
No odor					46		
					48		
		1.0	20 22	SPT			
	4-50		23		50		Brown ML with grit in mixed zones with grey ML
0940							
					52		
		1.0	14 17	SPT	54		
	4-55		21				
0950 No odor					56		
					58		
		1.4	17 18	SPT			
	4-60		27		60		
					62		
					64		

STE

SUN TECH ENVIRONMENTAL

PROJECT NO.

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

LOG OF [illegible]

Figure 3

Sheet 3 of [illegible]

GEOTRACKER ID#:T0604700184

DATE STARTED:	8/29/95	**SURFACE CONDITIONS:**	Asphalt
DATE COMPLETED:	8/29/95	**SURFACE ELEVATION:**	
DRILLING EQUIPMENT:	Hollow Stem Auger	**COORDINATES:**	
DRILLING CONTRACTOR:	MDE, Inc.	**GROUNDWATER CONDITIONS:**	
LOGGED BY:	Tim K. Smith		
TOTAL DEPTH:	70.0	**CASING DEPTH:**	
BORING DIAMETER:	8"	**FILTER PACK:**	**SLOT SIZE:**

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	FIELD: BLOWS / 6"	FIELD: SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
OVA @ 1 ppm @ 11:15								Asphalt 0 - 5' No odor SM
			2.0	14 17	SPT	2 4 6 8		
1120		5-10		30		10		Grades to cobbly gravel with sandy matrix (GP-GM).
			5.5	25 50/6"	SPT	12 14		
		5-15						

STE

SUN TECH ENVIRONMENTAL

PROJECT NO.

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

LOG OF BORING

Figure 4

Sheet 1 of 1

GEOTRACKER ID#:T0604700184

REMARKS	WELL	SAMP. NO.	FIELD READ.	BLOWS/6"	TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
Weak odor @ 1125						16		
						18		
			3.5	39	SPT			
				50/6"				
		5-20						
Moderate odor @ 1130						20		
						22		Grades to clayey fine sand (SP), with moderately strong gas odor.
			71000	14	SPT			
				17		24		
		5-25		25				
Strong odor @ 1140								Very fine silty sand (SP), with strong gas odor.
						26		
						28		
			190	20	SPT			
				20				
		5-30		23				
Moderate odor @ 1145						30		
						32		Grades to clayey sand (SC), with moderate gas odor.
			160	22	SPT			
				25		34		
		5-35		27				Grades to grey clayey silt/silty clay (CL-ML) @ 30'-35' (?).
Weak odor @ 1155								
						36		
						38		
			60	14	SPT			
				17				
		5-40		20				

STE
SUN TECH ENVIRONMENTAL

Le Grand Union High School
12961 East Le Grand Road, Le Grand, CA 95333

Figure 5

LOG OF BORING

REMARKS	FIELD SAMP.	FIELD	BLOWS/6"	TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
					66		ML-CL
		30	22	SPT	68		
			26				
	5-70		28		70		
No odor @ 1330					72		
					74		
					76		
					78		
					80		
					82		
					84		
					86		
					88		

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SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

Figure 7

GEOTRACKER ID#:T0604700184

DATE STARTED:	8/29/95	**SURFACE CONDITIONS:**	Asphalt
DATE COMPLETED:	8/29/95	SURFACE ELEVATION:	
DRILLING EQUIPMENT:	Hollow Stem Auger	**COORDINATES:**	
DRILLING CONTRACTOR:	MDE, Inc.	**GROUNDWATER CONDITIONS:**	
LOGGED BY:	Tim K. Smith		
TOTAL DEPTH:	60.0	**CASING DEPTH:**	
BORING DIAMETER:	8"	**FILTER PACK:**	**SLOT SIZE:**

REMARKS	FIELD WELL	FIELD SAMP. NO.	FIELD FIELD READ.	BLOWS / 6"	SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
OVA Set at 1.0 ppm (Field reasdings in parts per million)						2		Asphalt Loamy sand with pebbles (SM).
						4		
						6		
						8		Cobbly sand/gravel (GW).
				50/6"	SPT			
		NS				10		
No odor @ 1620								No sample at 10'. Loose sandy gravel.
						12		
			1.0	50/6"	SPT			
		6-15				14		

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SUN TECH ENVIRONMENTAL

Le Grand Union High School
12961 East Le Grand Road, Le Grand, CA 95333

Figure 1

GEOTRACKER ID#:T0604700184

REMARKS	FIELD WELL	SAMP. NO.	FIELD [illegible]			DEPTH (ft)	USCS CL	
[illegible] r basket @ 15', no odor @ 1635						16		
						18		
			1.0	50/6"	SPT			
		6-20						
No odor @ 1640						20		Becomes moist at 20'.
						22		
			2.1	17	SPT			
				20		24		
		6-25		25				
No odor @ 1650								Brown clayey sand - 3" gravel in top of tube (SM).
						26		
						28		
			30.0	17	SPT			
				18				
		6-30		27				
No odor @ 1655						30		Grades to black course sand. 1" of sand. .M=SW
								Grey plastic clay (CL-ML), moist w/some course grit.
						32		
						34		
			5.0	23	SPT			
				25				
		6-35		25				
No odor @ 1700								
						36		
						38		
			3.5	21	SPT			
				25				
		6-40		26				

STE

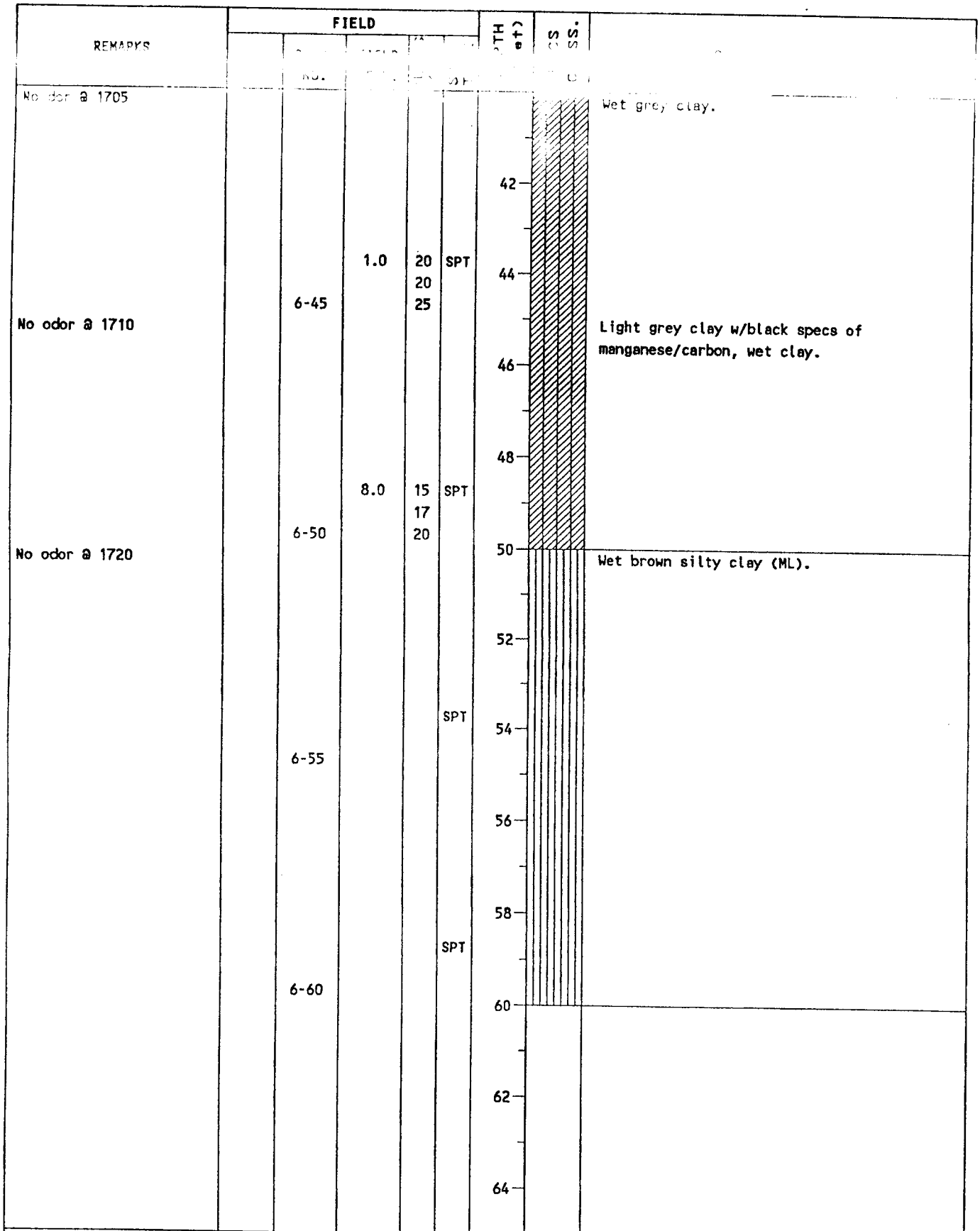
SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

Figure 2

GEOTRACKER ID#:T0604700184



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SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

Figure 3

GEOTRACKER ID#:T0604700184

Paved Road

DATE COMPLETED: 7/27/95

SURFACE ELEVATION:

DRILLING EQUIPMENT: Hollow Stem Auger

COORDINATES:

DRILLING CONTRACTOR: MDE, Inc.

GROUNDWATER CONDITIONS:

LOGGED BY: Larry D. Griffith

TOTAL DEPTH: 60.0

CASING DEPTH:

BORING DIAMETER: 8"

FILTER PACK: SLOT SIZE:

REMARKS	FIELD					DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
	WELL	SAMP. NO.	FIELD READ.	BLOWS / 6"	SAMP TYPE			
						0		Asphalt Road Surface
				15	SPT	2		
				18		4		
		5		22				
						6		**Silt (ML)**- Brown, moist, soft, micaceous, slight plasticity, no odor.
						8		Gravel at 8 feet (difficult drilling conditions)
				50/4"	SPT			
		NR				10		**Silty Sandy Gravel (GM)**- Brown, moist, loose, 20% fines, fine sand to course gravel, well graded, no odor, no sample recovery.
						12		
				75/4"	SPT			
		15				14		

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Le Grand Union High School

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Figure 1

Sheet 1

PROJECT NO.

GEOTRACKER ID#:T0604700184

REMARKS	FIELD			DEPTH (ft)	USCS	
	SAMP.					
			50/4" SPT	16		Silty Sandy Gravel (GM)- Brown, loose, 20% fines, fine sand to course gravel, well graded, no odor.
	20			18		
				20		Silty Sand (SM)- Brown, moist, micaceous, fine to course grained sand, well graded, no odor.
			35 SPT	22		
			42	24		
	25		50/3"			Silty Sandy Gravel (GM)- Brown, moist, loose, fine sand to course gravel, no odor.
				26		
				28		
			24 SPT			
			30			
	30		36	30		Sand (SW)- Brown, moist, micaceous, fine to course grained sand, well graded, no odor.
				32		
			15 SPT			
			17	34		
	35		22			
				36		Silty Sand (SM)- Brown, moist, micaceous, fine to course grained sand, well graded, no odor.
				38		
			10 SPT			
			13			
	40		18			

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SUN TECH ENVIRONMENTAL

Le Grand Union High School

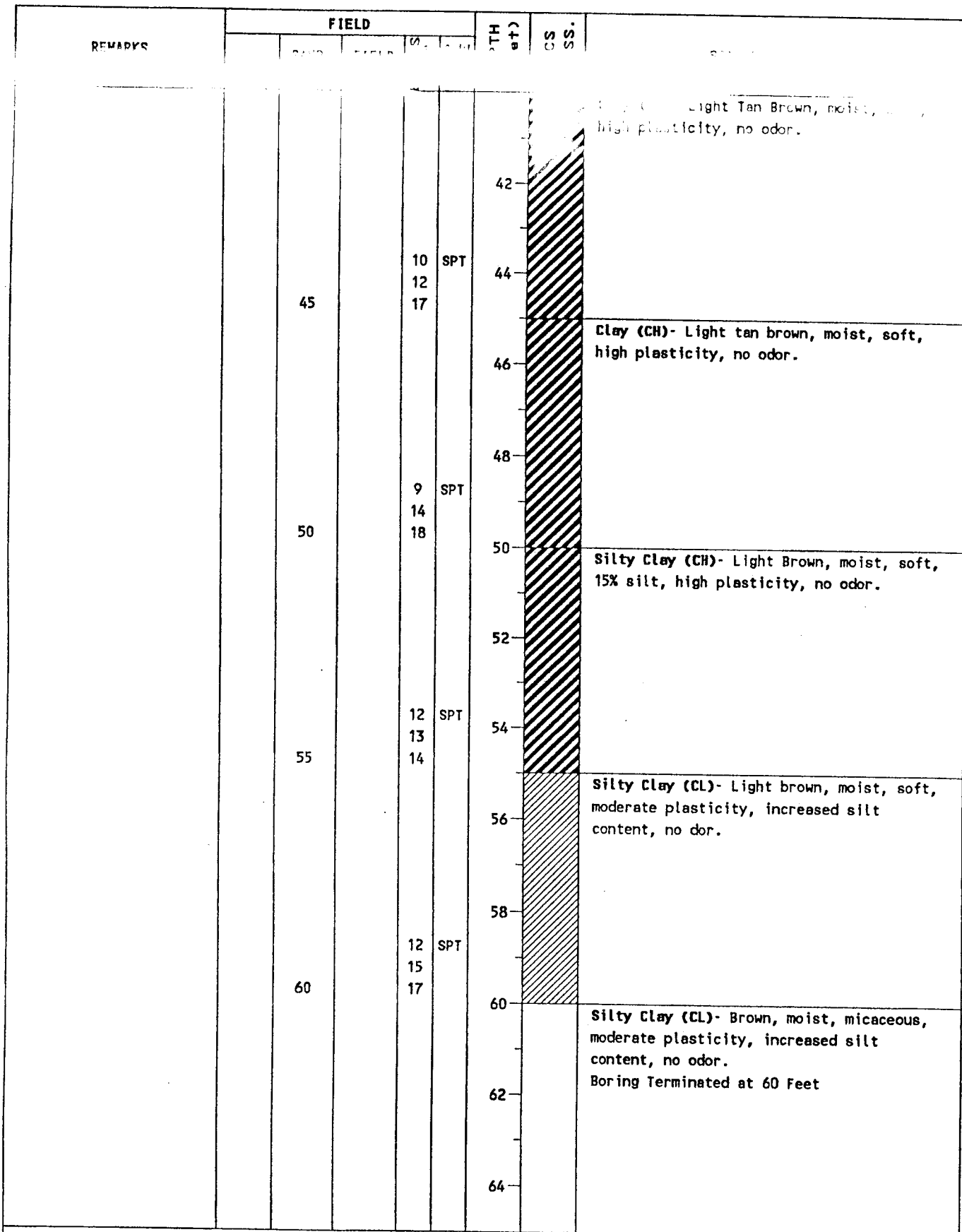
12961 East Le Grand Road, Le Grand, CA 95333

LOG OF [illegible]

Figure 5

Sheet 2 of 3

GEOTRACKER ID#:T0604700184



GEOTRACKER ID#:T0604700184

DATE STARTED: 9/27/95

DATE COMPLETED: 9/27/95

DRILLING EQUIPMENT: Hollow Stem Auger

DRILLING CONTRACTOR: MDE, Inc.

LOGGED BY: Larry Griffith

TOTAL DEPTH: 60.0

BORING DIAMETER: 8"

SURFACE CONDITIONS: Paved Road

SURFACE ELEVATION:

COORDINATES:

GROUNDWATER CONDITIONS:

CASING DEPTH:

FILTER PACK: SLOT SIZE:

REMARKS	FIELD: WELL	FIELD: SAMP. NO.	FIELD: FIELD READ.	FIELD: BLOWS / 6"	FIELD: SAMP TYPE	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
						0		Asphalt Road Surface
				7	SPT	2		
				12		4		
		5		14				
						6		Silt (ML)- Brown, moist, micaceous, loose, soft, no odor.
						8		Gravel att 8 feet (difficult drilling conditions)
				35	SPT			
				50/5"				
		10				10		Silty Sandy Gravel (GM)- Brown, moist, micaceous, fine sand to coarse gravel, well graded, no odor.
						12		
				50/4"	SPT	14		
		NR						

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SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

LOG

Figure 2

GEOTRACKER ID#:T0604700184

REMARKS	FIELD WELL	FIELD SAMP.	FIELD	Ø =	blow	DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
						16		Silty Sandy Gravel- Brown, moist, micaceous, fine sand to coarse gravel, well graded, no odor, no sample recovery.
				41	SPT	18		
				50/5"				
		NR				20		
						22		
				33	SPT	24		Silty Sandy Gravel- Brown, moist, micaceous, fine sand to course gravel, well graded, no odor, no sample recovery.
				24				
		25		18				
						26		Silt (ML)- Brown, moist, micaceous, soft, loose, possible slight gasoline odor.
						28		
				12	SPT			
				12				
		30		17		30		Silt (ML)- Brown, moist, micaceous, soft, loose, no odor.
						32		
				13	SPT			
				16		34		
		35		19				
						36		Silty Sand (SM)- Brown, moist, micaceous, fine to course grained sand, well graded, no odor.
						38		
				10	SPT			
				12				
		40		17				

STE
SUN TECH ENVIRONMENTAL

Le Grand Union High School
12961 East Le Grand Road, Le Grand, CA 95333

LOG OF S...

Figure 8

Sheet 2 of 3

GEOTRACKER ID#:T0604700184

REMARKS	FIELD SAMP. NO.	FIELD				DEPTH (ft)	USCS	SOIL DESCRIPTIONS
						42		micaceous, high plasticity, no
			9	SPT		44		
			13					
	45		16					
						46		**Clay (CH)**- Light tan brown, moist, micaceous, high plasticity, no odor.
						48		
			12	SPT				
			12					
	50		18			50		
								Silty Clay (CH)- Light brown, moist, micaceous, moderate plasticity, no odor.
						52		
			11	SPT		54		
			14					
	55		20					
						56		**Clayey Silt (MH)**- Reddish brown, moist, micaceous, slight to moderate plasticity, no odor.
						58		
			12	SPT				
			15					
	60		21			60		**Clayey Silt (MH)**- Reddish brown, moist, micaceous, soft, slight to moderate plasticity, no odor. **Boring Terminated at 60 Feet**
						62		
						64		

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SUN TECH ENVIRONMENTAL

Le Grand Union High School
12961 East Le Grand Road, Le Grand, CA 95333

LOG OF SB-8

Figure 9

GEOTRACKER ID#:T0604700184

DATE STARTED: 9/27/95

SURFACE CONDITIONS: Asphalt Road Surface

[illegible] /95

[illegible] ELEVATION:

DRILLING EQUIPMENT: Hollow Stem Auger

COORDINATES:

DRILLING CONTRACTOR: MDE, Inc.

GROUNDWATER CONDITIONS:

LOGGED BY: Larry Griffith

TOTAL DEPTH: 60.0

CASING DEPTH:

BORING DIAMETER: 8"

FILTER PACK: SLOT SIZE:

REMARKS	FIELD					DEPTH (feet)	USCS CLASS.	SOIL DESCRIPTION
	WELL	SAMP. NO.	FIELD READ.	BLOWS / 6"	SAMP TYPE			
						0		Asphalt Road Surface
				25	SPT	2		
				50/6"		4		
						6		**Silt (ML)**- Brown, moist, micaceous, soft, loose, no odor.
				50/4"	SPT	8		
						10		**Silty Sandy Gravel (GM)**- Brown, dry, loose, fine sand to course gravel w/some cobble size particles, no odor, no sample recovery.
				50/4"	SPT	12		
						14		

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SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

Figure 3

GEOTRACKER ID#:T0604700184

REMARKS	FIELD	DEPTH (ft)	USCS	SOIL DESCRIPTION
		16		**Silty** Sa[illegible] brown, slightly moist, l[illegible] fine [illegible] to course gravel, well graded, no odor.
	50/6" SPT	18		
		20		**Silty Sand (SM)**- Brown, moist, micaceous, loose, 10% fines, fine to medium grained sand, no odor.
	26 SPT	22		
	28	24		
	30			
		26		**Silt (ML)**- Brown, moist, micaceous, soft, loose, no odor.
	20 SPT	28		
	23			
	28	30		**Sand (SP)**- Reddish brown, moist, micaceous, loose, fine grained sand, no odor.
		32		
	23 SPT	34		
	28			
	25			
		36		**Clay (CH)**- Gray, moist, soft, high plasticity, no odor.
		38		
	17 SPT			
	21			
	23			

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SUN TECH ENVIRONMENTAL

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

Figure 11

LOG OF [illegible]

Sheet 2 of [illegible]

GEOTRACKER ID#:T0604700184

REMARKS	FIELD WELL	FIELD SAMP. No.	FIELD HEAD.	BLOWS / 6"	SAMPLE TYPE	DEPTH (Feet)	USCS CLASS.	SOIL DESCRIPTION
								Clay (CL) Gray, moist, soft, high plasticity, no odor.
				20 25 37	SPT	42 44		
						46		**Clay (CH)- White, soft, high plasticity, no odor.**
				18 19 21	SPT	48 50		
						52		**Clayey Silt (MH)- Light Brown, moist, soft, moderate placticity, no odor.**
				17 18 19	SPT	54		
						56		**Clayey Silt (MH)- Light brown, moist, soft, moderate plasticity, no odor.**
						58		
				15 18 19	SPT	60		**Clayey Silt (MH)- Light brown, moist, soft, micaceous, slight to moderate plasticity, no odor.** **Boring Terminated at 60 Feet**
						62		
						64		

STE

SUN TECH ENVIRONMENTAL

PROJECT NO.

Le Grand Union High School

12961 East Le Grand Road, Le Grand, CA 95333

LOG OF SB-9

Figure 12

Sheet 3 of 3

GEOTRACKER ID#:T0604700184

TKS CONSULTING, LTD.

BORING LOG

BORING NO.	PROJECT NO.	PROJECT	SHEET	LOGGED BY:
LGSB-1		LE GRAND UNION H.S.	1 OF 2	TKS

DATE & TIME STARTED: 9/29/93: 0[illegible] SURFACE CONDITIONS: A.C. [illegible]

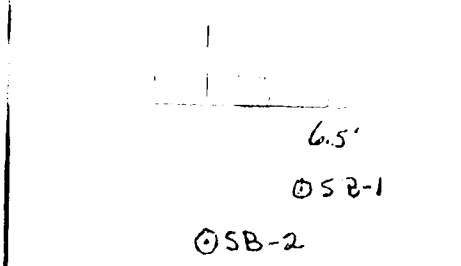
DATE & TIME COMPLETED: 9/29/93: 17[illegible] GROUNDWATER CONDITIONS: [illegible]

DRILLING EQUIPMENT: I[illegible] [illegible]

DRILLING CONTRACTOR: Hunt/Tarrol BORING DEPTH: 51½'

SAMPLING METHOD: H.S. Auger w/ Split Spoon

BORING LOCATION



	SIZE	TYPE	TOP	BOTTOM	MATERIALS USED
SURFACE CASING					
BENT/CEM SLURRY				-	
BENTONITE					
SAND/GRAVEL PACK					
WELL SCREEN					

REMARKS	SAMP NO.	PPM READ OVA	BLOWS TOTAL	SAMP TYPE	WELL CONST.	DEPTH (FT)	USCS/ GSA COLOR	SOIL DESCRIPTION
							5YR 4/4	0-6" A.C. & Base
silty sand SM								6"-7' brn silty sand w/grit
								SM - ML
							SM	cobbles 7' - sandy gravel w/
	1-5	ND	14½			5		cobbles CW
								NO ODOR
						7		
GW - GM							5Y 3/2 GM	Cobble @ 10' can't sample
								10-20' cobbly sand
						10		@ 13 - GW - GM cobbly sand
	1-13	ND	100				5Y 5/6	
						15		
GM	1-15	ND						14" sample
								Black & tan sand gravel
							5Y 5/6 GM	GM .1mm - 2"
								Thin clay 2-3" @ 13 NO ODOR
	1-20	8.5	60T			20	5YR 4/4	
SM								2.2 ppm ambient, 18" sample
							5Y 5/6 SM	21 goes to sandy silt
								SM - NO ODOR
	1-25	65	16T			25		15" sample 65 ppm 10YR 5/4
								fine silty sand .25mm
SP							10YR 5/4	SP, mostly silica
								25-30 NO RETURN ON AUGER
	1	160	29T				SP	
	1-30					30		12" sample use bot. tube
							SM	.25-.5mm SM, some clayey fine
SM							5Y 5/6	possible work ODOR of H.C.
	1-35	300	22T				CL	Driller thinks clay @ 35'
						35		[illegible] sample [illegible]

BORING NO.	PROJECT NO.	PROJECT	SHEET	LOGGED BY:
LGSB-1		LE GRAND UNION H.S.	2 OF 2	TKS

BORING LOG

DATE & TIME STARTED: See Sheet 1 TIONS:

GROUNDWATER CONDITIONS:

DRILLING EQUIPMENT:

SAMPLING METHOD:

	SIZE	TYPE	TOP	BOTTOM	MATERIALS USED
SURFACE CASING					
BENT/CEM SLURRY					
BENTONITE					
SAND/GRAVEL PACK					
WELL SCREEN					

REMARKS	SAMP NO.	PPM READ OVA	BLOWS / 6" T=TIDAL	SAMP TYPE	WELL CONST.	DEPTH (FT)	USCS/ GSA COLOR	SOIL DESCRIPTION
							CL 10YR6/2	Grey clay
	1-40	30	19T			40		17" sample Entire sample Tight grey clay w/black specs. MN in fracs & clay partings
	1-45	30	18T			45	CL/ML 10YR6/2	18" sample, Stange Odor NOT GAS! grey mod plastic clay CL-ML MN on cracks & partings
	1-50	145				50	10YR5/4 ML	18" sample No Gas Odor @ 50.5 goes to silty clay low mod. plastic brn-gry
								EOH @ 1630 TD 51.5
								GROUTED IMMEDIATELY

GEOTRACKER ID#:T0604700184

BORING NO.

SHEET 2 OF 2

BORING NO. LGSB-2	PROJECT NO.	PROJECT LE GRAND UNION H.S.	SHEET 1 OF 1	LOGGED BY: TKS

BORING LOG

DATE & TIME STARTED: 9/30/93: 0815

DATE & TIME COMPLETED: 9/30/93: 1330 GROUNDWATER CONDITIONS:

DRILLING EQUIPMENT: IR A-200

SAMPLING METHOD: Split Spoon/
H.S. Auger

↑ 14'
↓
⊙

	SIZE	TYPE	TOP	BOTTOM	MATERIALS USED
SURFACE CASING					
BENT/CEM SLURRY					
BENTONITE					
SAND/GRAVEL PACK					
WELL SCREEN					

REMARKS	SAMP NO.	PPM READ OVA	BLOWS / 6" T=TOTAL	SAMP TYPE	WELL CONST.	DEPTH (FT)	USCS/ GSA COLOR	SOIL DESCRIPTION
							Hand dug 10YR 4/2	
silty SM		ND					SM	18" sample
	2-5	ND	8T	SS		5	SM 10YR 4/2	brn silty sand NO ODOR
								hit cobble zone @ 8'
						8		
GM cobbly gravel w/sand		5.5	80T			10	GM	No sample No vapor on hole with OVA
								large cobble zone
	2-15					15	SW	15" sample
GM							GM 10YR 4/2	NO ODOR Mixed brn/gry gravel w/some clay-sand & grit
SP bl/wht sand	2-20	60	20T			20	SP 5YR 5/6	19' goes to clay w/cobbles 18" sample 20-21 clean blk & white sand w/oxide 5YR5/6
SM fine sand w/ silt	2-25	180	35T			25	SM 10YR 6/2	pebbles/ 21' goes to fine silty sand w/minor clay
							SW-SM 10YR 5/4	14" sample Wk-mod Odor ?Old fuel? brn-grn clayey sand SW
	2-30	280	31T			30		Tighter @ 26'
								18" sample @ 31' goes to tan clay, sample bottom sandy
							CL	vertical sa[illegible] ...ormac

TKS CONSULTING, LTD.

BORING NO.	PROJECT NO.	PROJECT	SHEET	BORING LOG:
LGSB-3		LE GRAND UNION U.S.	1 OF 1	LOGGED BY:

DATE & TIME COMPLETED: 9/30/93: 1605 GROUNDWATER CONDITIONS: 28'

TD 30.5' @ 1605

SAMPLING METHOD: Split Spoon
H.S. Auger

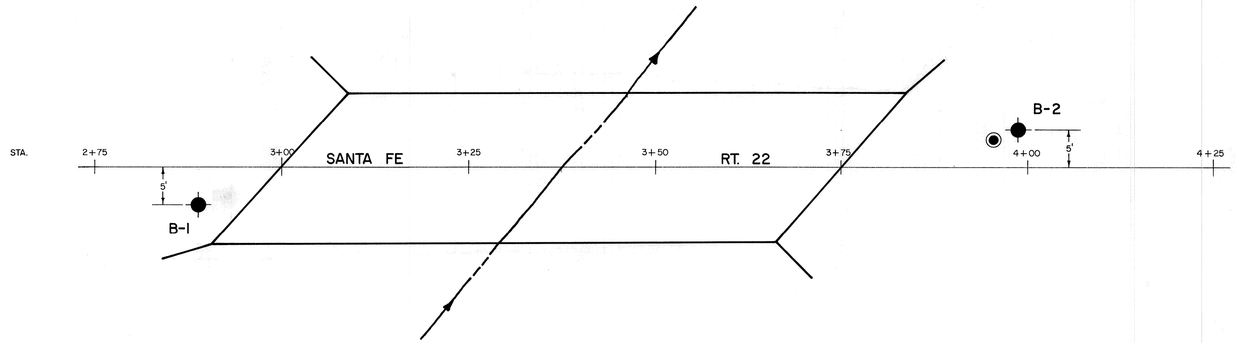
28'
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	SIZE	TYPE	TOP	BOTTOM	MATERIALS USED
SURFACE CASING					
BENT/CEM SLURRY					
BENTONITE					
SAND/GRAVEL PACK					
WELL SCREEN					

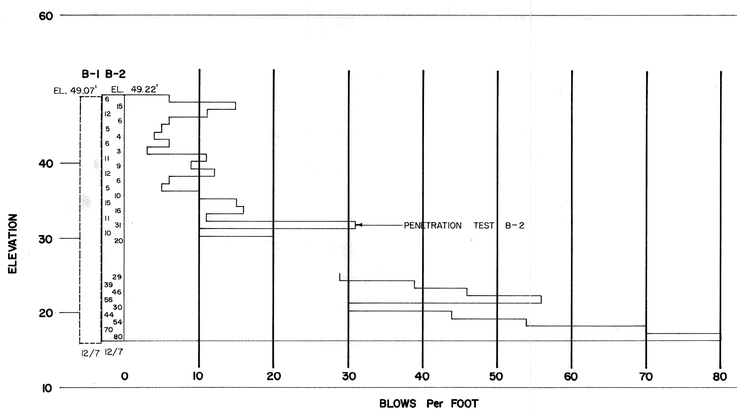
REMARKS	SAMP NO.	PPM READ OVA	BLOWS / 6" T=TOTAL	SAMP TYPE	WELL CONST.	DEPTH (FT)	USCS/ GSA COLOR	SOIL DESCRIPTION
							Base	Ambient 1.3
Topsoil							SM	
SM							10YR 4/2	16" sample Topsoil, NO ODOR
	3-5	ND	7T			5		silty sand/loam
								choc. brn
								HIT GRAVEL @ 7.5'
GP cobbly gravel							GM	
	3-10	ND	60T			10	5YR4/4	9" sample → Refusal @ 9"
								red brn sandy gravel
								No geol sample NO ODOR
								UNABLE TO SAMPLE IN COBBLES TO 20'
	3-15					15		
								17" sample
* SP	3-20	150				20	SP-GP 5YR4/4	wk - st. Odor, H.C. possibly
								Not gasoline smell/paint thinner smell
								sandy w/ pebbly zones
							10YR 6/6	Estimated change to 14" sample
	3-25	>1000				25		strong old gas smell, in fine grn.
SM/SC							SM/SC	sand w/silt buff, orange .25mm
GC								
	3-30	>1000	33T			30	GC	Gravel 29-30.5 grv-ashy
								15" sample mo
								Odor, s

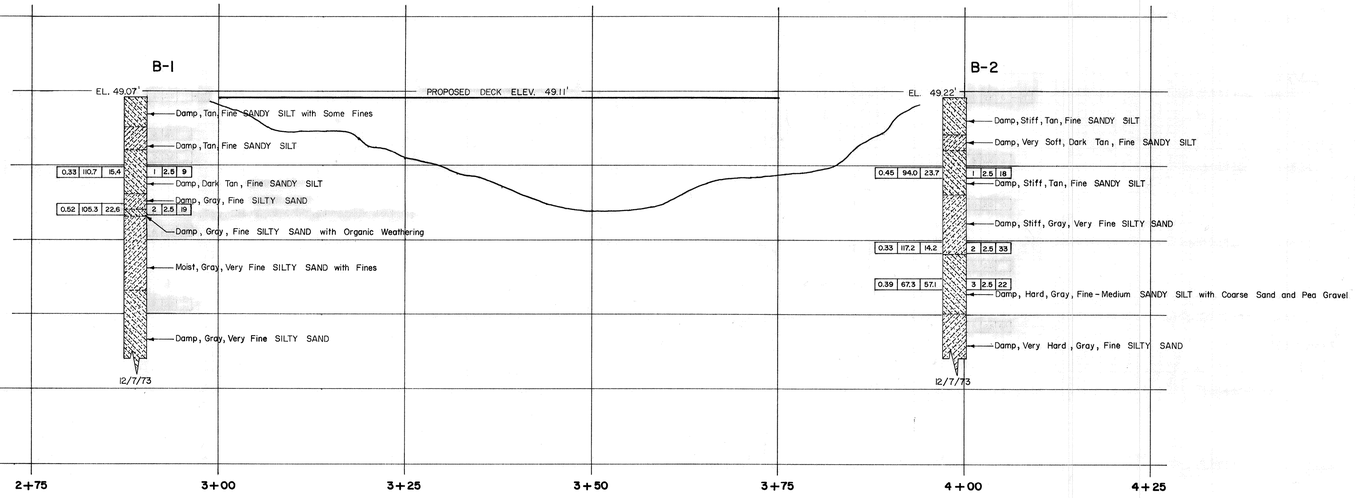
TD 30.5' @ 1605





PLAN VIEW



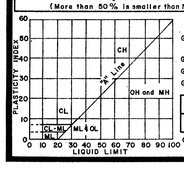


PROFILE

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

PT	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12 % fines		Clean sands <5 % fines		Gravels with fines >12 % fines		Clean gravels <5 % fines	
							Sands- more than 50 % of coarse fraction is smaller than Nº 4 sieve				Gravels- more than 50 % of coarse fraction is larger than Nº 4 sieve			
Fine grained soils (More than 50 % is smaller than Nº 200 sieve)							Coarse grained soils (More than 50 % is larger than Nº 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW and 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 2.

GP and SP - Clean gravel or sand not meeting requirements for GW or SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or Organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

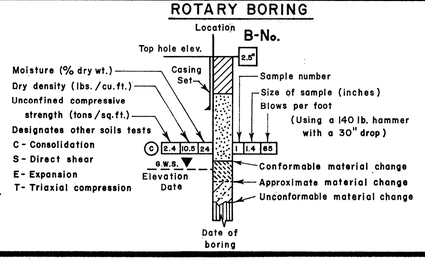
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

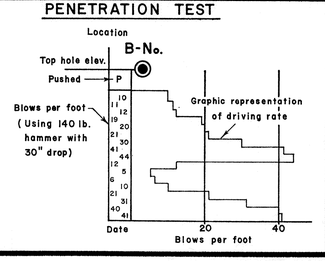
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2 1/4 " Cone penetrometer
- 2 1/2 " Cone penetrometer

ROTARY BORING



PENETRATION TEST



LOG OF BORINGS AND TEST DATA,
PROPOSED BRIDGE AT SANTA FE AVE.
OVER DUTCHMAN CREEK

MERCED Co. CALIF.

THE FOUNDATION ENGINEERS INC.

(Subsidiary of The Twining Laboratories Inc.)

2527 Fresno St. Fresno, Calif. — 1507 G. St. Modesto, Calif.

Examination No.	Scale: 1" = 10' 0"	Drawn by	Drawing No.
6 - 74 - 7639	Date: 1/25/74	Approved by	5 of 5

1-3-4

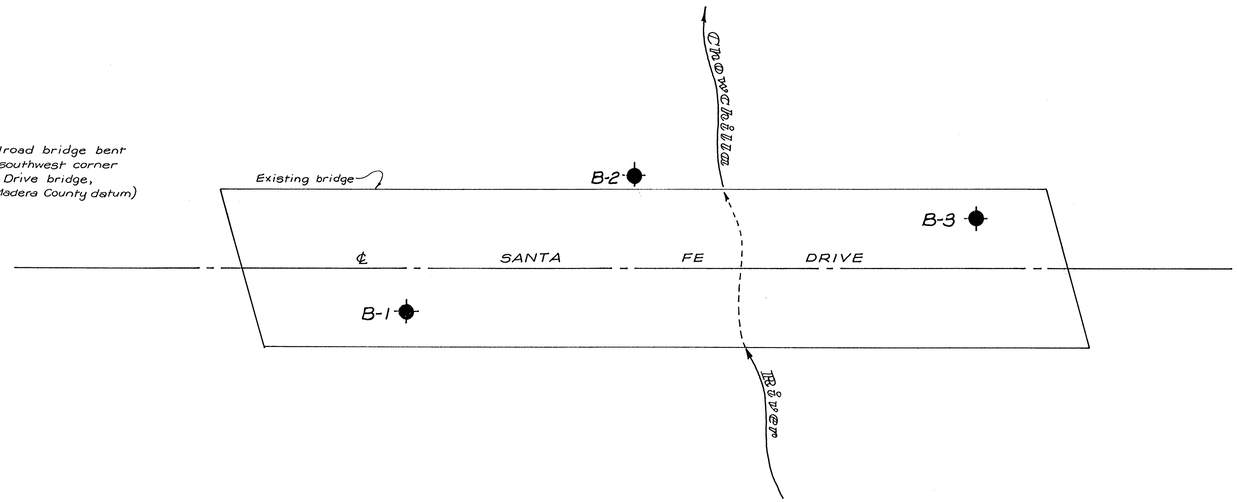
LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-4

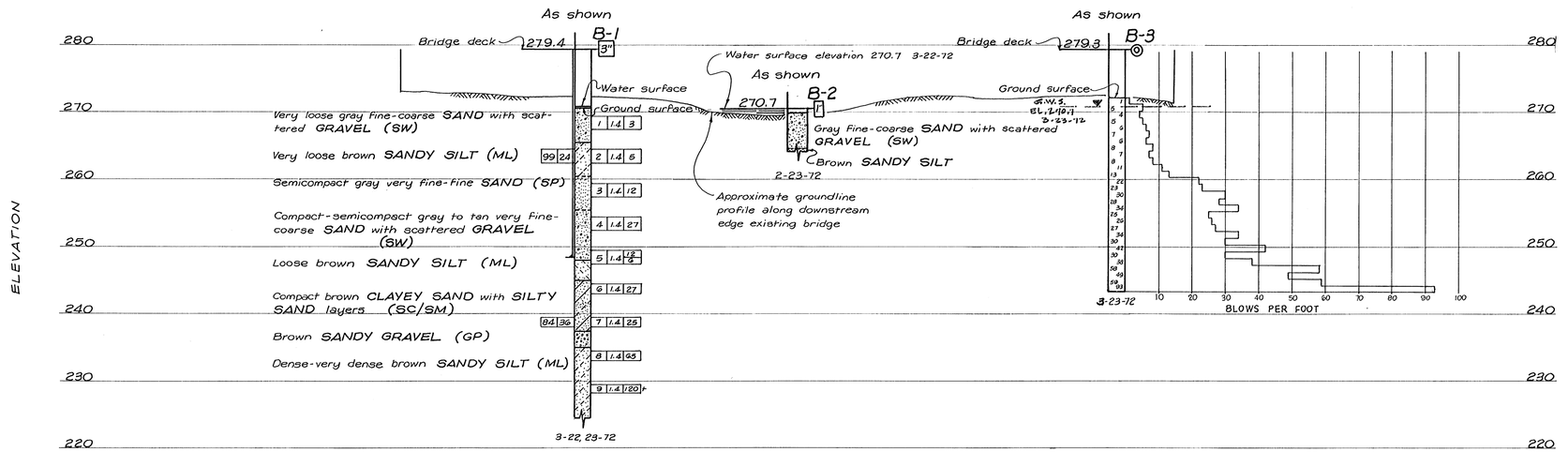
Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

-Note-
TBM Spike in railroad bridge bent 75± feet west of southwest corner existing Santa Fe Drive bridge, Elevation 275.0 (Madera County datum)



PLAN

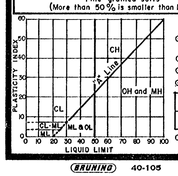
PROFILE



LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than No 4 sieve.				Gravels - more than 50% of coarse fraction is larger than No 4 sieve.			
Fine grained soils (More than 50% is smaller than No 200 sieve)							Coarse grained soils (More than 50% is larger than No 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)		Fine sand		Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"	

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

Gravel; Sand; Silt; Clay; Sandy clay or clayey sand; Sandy silt or silty sand; Silty clay or clayey silt; Peat or organic matter; Fill material; Shale; Sandstone; Limestone; Metamorphic rock; Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

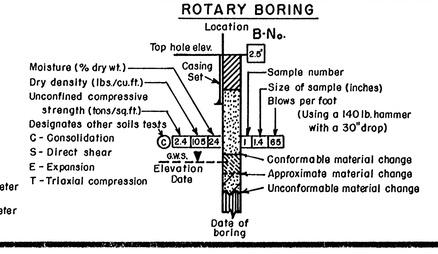
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

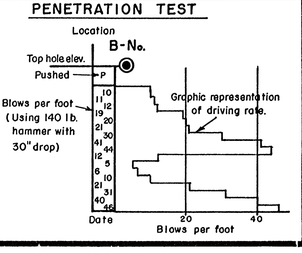
LEGEND OF BORING OPERATIONS

Plan of any boring; Rotary boring; Diamond core boring; Auger boring; Sample boring; Jet boring; Test pit; 2¼" Cone penetrometer; 2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER NORTHERN CALIFORNIA
CONSULTING ENGINEERS AND GEOLOGISTS

APPROVED H.R. Taber 5-19-72 REGISTERED CIVIL ENGINEER No. 9165

JOB No. 372/33F-2

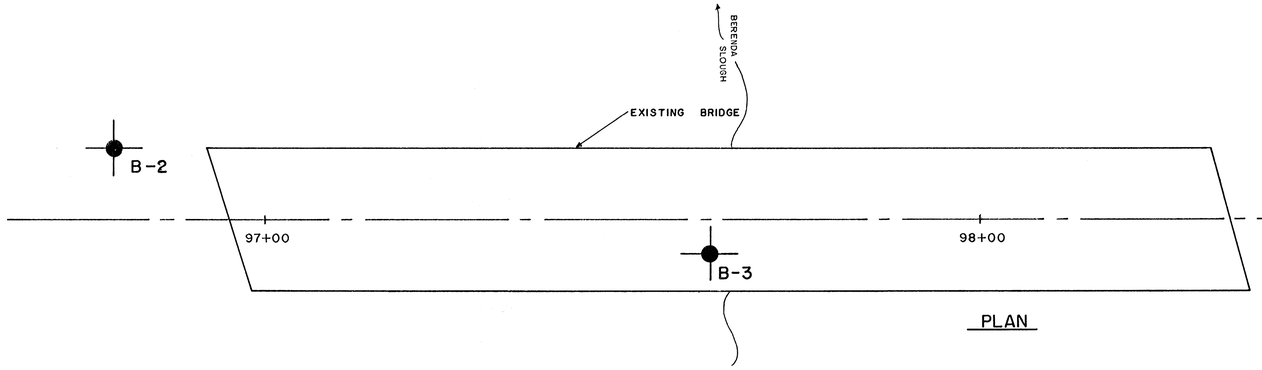
COUNTY OF MADERA

SANTA FE DRIVE BRIDGE ACROSS THE CHOWCHILLA RIVER

LOG OF TEST BORINGS

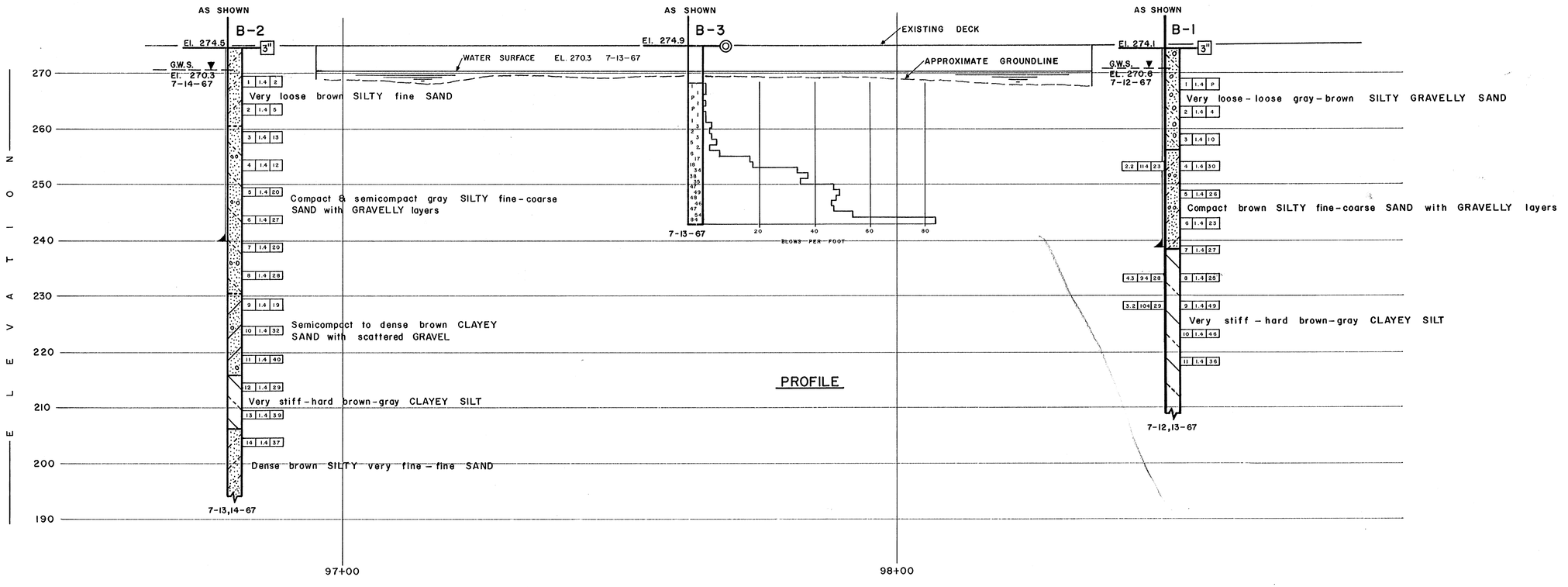
Scale 1"=10' | Date Apr. 1972 | By RFE | Check by | Drawing

BRUNING 40-105



PLAN

ELEVATION REFERENCE: COUNTY DATUM

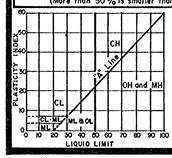


PROFILE

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

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							Sands - more than 50% of coarse fraction is smaller than Nº 4 sieve.				Gravels - more than 50% of coarse fraction is larger than Nº 4 sieve.			
Fine grained soils (More than 50% is smaller than Nº 200 sieve)							Coarse grained soils (More than 50% is larger than Nº 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

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Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"

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MATERIAL SYMBOLS

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CONSISTENCY CLASSIFICATION FOR SOILS

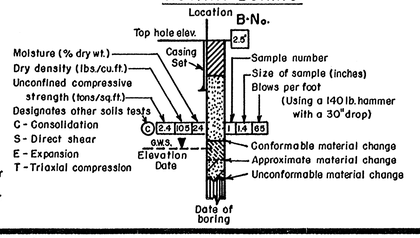
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

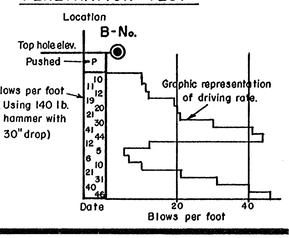
LEGEND OF BORING OPERATIONS

Plan of any boring; Rotary boring; Diamond core boring; Auger boring; Sample boring; Jet boring; Test pit; 2¼" Cone penetrometer; 2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER • Engineers • Geologists

APPROVED H. R. Taber 9-22-67
REGISTERED CIVIL ENGINEER No. 9165

JOB No. 3761F-4

MADERA COUNTY

SANTA FE DRIVE over BERENDA SLOUGH

LOG OF TEST BORINGS

Scale 1"=10' | Date Aug. 16, '67 | By | Check by | Drawing

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	5				
	10				
	15	-0-	13 19	SP	SAND (SP): Buff-tan, moderately dense, loosely consolidated, fine-grained, slightly moist, no apparent diesel odor.
	20	-0-	10 14	SP	SAND (SP): Brown, moderately dense, loosely consolidated, fine-grained, silty in part, micaceous, moderately moist, no apparent diesel odor.
	25	-0-	14 16	SP	SAND (SP): Brown, moderately dense, unconsolidated, fine to medium grained, decreasing silt, no apparent diesel odor. SILT LENS
	30	-0-	16 20	SP	SAND (SP): Brown, moderately dense, loosely consolidated, fine-grained, some silt, slightly moist, no apparent diesel odor.

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA.

WELL/BORING NO. B-1 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 04/13/95 LOGGED BY J. Buck REVIEWED BY J. DUNWOODY

DRILLING COMPANY S B & S Drilling DRILLER Ty Seder METHOD HOLLOW STEM AUGER

BORE HOLE DIAMETER 8" TOTAL DEPTH 40' DEPTH TO WATER: INITIAL _____ STATIC N/A

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	35	-0-	22 36	SM	SAND (SM): Brown, moderately to very dense, moderately consolidated, silty matrix, fine-grained, moderately moist, no apparent diesel odor.
	40	-0-	19 50	GC	Gravel (GC): Buff, multi colored, very dense, moderately cemented, medium-grained to gravel, lithic fragments, slightly moist, no apparent diesel odor.
	45				BENTONITE 40' TO 34' NATIVE 34-grade
	50				
	55				
	60				
	65				

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, California WELL/BORING NO. B-1

GEOTRACKER ID#:T0603900147

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	5	-0-	5 5	SP	SAND (SP): Buff, slightly dense, unconsolidated, fine-grained, slightly moist, no apparent diesel odor.
	10	-0-	14 18	SW	SAND (SW): Reddish-brown, moderately dense, moderately consolidated, hardpan, fine-grained, silty matrix, no apparent diesel odor.
	15	-0-	10 14	SP	SAND (SP): Buff-tan, moderately dense, loosely consolidated, fine-grained, moderately moist, no apparent diesel odor.
	20	-0-	14 15	SM	SAND (SM): Brown, moderately dense, loosely consolidated, silty matrix, fine-grained, moderately moist, no apparent diesel odor.
	25	-0-	13 18	SW	SAND (SW): White-buff, moderately dense, unconsolidated, fine to medium-grained, slightly moist, no apparent diesel odor.
	30	-0-	22 26	GC	GRAVEL (GC): Brown, moderately dense, unconsolidated, coarse-grained to gravel, well rounded, moderately moist, no apparent diesel odor.

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA.

WELL/BORING NO. B-2 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 04/13/95 LOGGED BY J. Buck REVIEWED BY J. DUNWOODY

DRILLING COMPANY S B & S Drilling DRILLER Ty Seder METHOD HOLLOW STEM AUGER

BORE HOLE DIAMETER 8" TOTAL DEPTH 30' DEPTH TO WATER: INITIAL _____ STATIC N/A

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

GEOTRACKER ID#:T0603900147

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
					Gray stained soil. Degraded hydrocarbon odor. Terminates AT 4' BGL.
	5			F I L L	
	10				
	15	-0-	10 13	SM	SAND (SM): Brown, moderately dense, loosely consolidated, silty matrix, fine-grained, slightly moist, no apparent diesel odor.
	20	-0-	7 10	SP	SAND (SP): Buff-tan, moderately dense, unconsolidated, fine-grained, slightly moist, no apparent diesel odor.
	25	-0-	12 14	SM	SAND (SM): Brown, moderately dense, loosely consolidated, fine-grained, silty matrix, slightly moist, no apparent diesel odor.
	30	-0-	10 16	SP	SAND (SP): Brown, moderately dense, loosely consolidated, fine-grained, silty matrix, no apparent diesel odor.

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA.

WELL/BORING NO. B-3 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 04/13/95 LOGGED BY J. Buck REVIEWED BY J. DUNWOODY

DRILLING COMPANY S B & S Drilling DRILLER Ty Seder METHOD HOLLOW STEM AUGER

BORE HOLE DIAMETER 8" TOTAL DEPTH 30' DEPTH TO WATER: INITIAL _____ STATIC N/A

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

GEOTRACKER ID#:T0603900147

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	5	-0-	2 4	SW	SAND (SW): Reddish-brown, slightly dense, unconsolidated, medium to coarse-grained, slightly moist, no apparent hydrocarbon odor.
	10	-0-	14 15	SW	SAND (SW): Reddish-brown, moderately dense, loosely to moderately consolidated, fine to medium-grained, slightly moist, no apparent hydrocarbon odor.
	15	-0-	12 14	SM	SAND (SM): Tan, moderately dense, loosely consolidated, fine-grained, silty matrix, slightly moist, no apparent hydrocarbon odor.
	20	-0-	14 15	SP	SAND (SP): Buff-tan, moderately dense, unconsolidated, fine grained, no apparent hydrocarbon odor.
	25				
	30				

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA.

WELL/BORING NO. B-4 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 04/13/95 LOGGED BY J. Buck REVIEWED BY J. DUNWOODY

DRILLING COMPANY S B & S Drilling DRILLER Ty Seder METHOD HOLLOW STEM AUGER

BORE HOLE DIAMETER 8" TOTAL DEPTH 20' DEPTH TO WATER: INITIAL _____ STATIC N/A

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

GEOTRACKER ID#:T0603900147

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	5				
	10				
	15	-0-	10 13	SP	SAND (SP): Brown, moderately dense, loosely consolidated, find-grained, some silt, slightly moist, no apparent hydrocarbon odor.
	20	-0-	10 11	SP	SAND (SP): Brown, moderately dense, loosely consolidated, fine-grained, increasing silt, no apparent hydrocarbon odor.
	25	-0-	10 18	SW	SAND (SW): Multi-colored, moderately dense, loosely to moderately consolidated, fine to coarse-grained, slightly moist, no apparent hydrocarbon odor.
	30	-0-	15 18	SM	SAND (SM): Gray-brown, moderately dense, moderately consolidated, fine-grained, silty matrix, moderately moist, no apparent hydrocarbon odor.

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA

WELL/BORING NO. CB-1 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 01/12/01 LOGGED BY Jon Buck REVIEWED BY C. Bellue

DRILLING COMPANY Twining Laboratories DRILLER _____ METHOD Hollow Stem Auger

BORE HOLE DIAMETER 8" TOTAL DEPTH 45' DEPTH TO WATER: INITIAL _____ STATIC ___

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	35	-0-	20 22	SM	SAND (SM): Gray-brown, moderately dense, moderately to very consolidated, fine-grained, silty in part, moderately moist, no apparent hydrocarbon odor.
	40	-0-	42 50	GC	GRAVEL (GC): Multi-colored, very dense, gravel to rock fragments, slightly moist, no apparent hydrocarbon odor.
	45	-0-	28 35	SW	SAND (SW): Brown, very dense, moderately consolidated, fine to medium-grained, moderately moist, no apparent hydrocarbon odor.
	50				
	55				
	60				

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Greenhills Holdings LOCATION 17085 Avenue 26, Chowchilla, CA

WELL/BORING NO. CB-1 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 01/12/01 LOGGED BY Jon Buck REVIEWED BY C. Bellue

DRILLING COMPANY Twining Laboratories DRILLER _____ METHOD Hollow Stem Auger

BORE HOLE DIAMETER 8" TOTAL DEPTH 45' DEPTH TO WATER: INITIAL _____ STATIC _____

CASING TYPE _____ DIAMETER _____ SCHEDULE _____ INTERVAL _____ TO _____

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE _____ INTERVAL _____ TO _____

FILTER PACK TYPE _____ INTERVAL _____ TO _____

SURFACE SEAL TYPE _____ INTERVAL _____ TO _____

NOTES _____

GEOTRACKER ID#:T0603900147

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-5

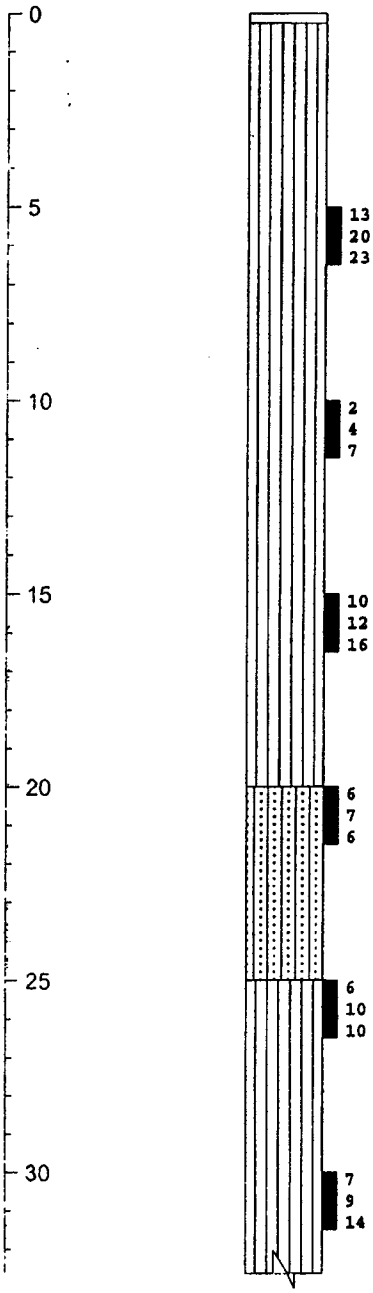
Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

LOG OF SOIL BORING

MOORE TWINING ASSOCIATES, INC.

BORING SB1

Project: LUPE MENDOZA ESTATE
Project Number: D91401.01
Location: 247 ROBERTSON, CHOWCHILLA
Date Started: JULY 11, 2008
Logged By: S. VAUGHN
Date Completed: JULY 11, 2008
Drilled By: S. RILEY
Drill Type: CME 75 TRUCK
Auger Type: HSA
Depth to Groundwater: 48 FT.
Elevation: N/A



DEPTH (feet)	USCS	Soil Description	Blows per foot	Remarks
0	AC	Asphalt surface		
	ML	Silt, clayey, sandy, hard, moist, olive green to yellow, slight petroleum odor	43	PID=0.0
10		Same as above, stiff, strong petroleum odor	11	PID=1482
15		Same as above, very stiff, yellow to light brown	28	PID=3679
20	SM	Sand, silty, medium dense, moist, yellow to light brown, strong petroleum odor	13	PID=270
25	ML	Silt, clayey, very stiff, moist, yellow to light brown, very strong petroleum odor	20	PID=1451
30		Same as above, sandy	23	PID=1007

Notes: *BORING LOCATED ADJACENT TO FORMER GASOLINE UST EXCAVATION (SEE DRAWING 2). GRAB GROUNDWATER SAMPLE COLLECTED.*

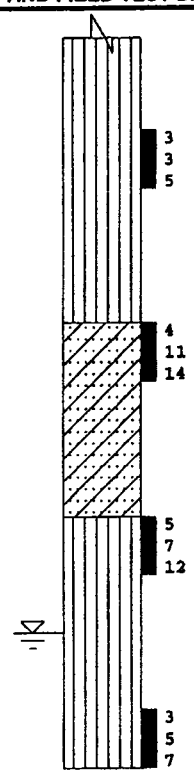
GEOTRACKER ID#:T0603900105

LOG OF SOIL BORING

MOORE TWINING ASSOCIATES, INC.

BORING SB1

Project: LUPE MENDOZA ESTATE
Project Number: D91401.01
Location: 247 ROBERTSON, CHOWCHILLA
Date Started: JULY 11, 2008
Logged By: S. VAUGHN
Date Completed: JULY 11, 2008
Drilled By: S. RILEY
Drill Type: CME 75 TRUCK
Auger Type: HSA
Depth to Groundwater: 48 FT.
Elevation: N/A

DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	Blows per foot	Remarks
35			Same as above, firm	3 3 5 8	PID=1921
40		SC	Sand, clayey, medium dense, moist, olive green to brown, strong petroleum odor	4 11 14 25	PID=1059
45		ML	Silt, clayey, very stiff, moist, gray to olive green, strong petroleum odor	5 7 12 19	PID=149.7
50			Same as above, stiff, wet	3 5 7 12	
55			BOB		
60					
65					

Notes: *BORING LOCATED ADJACENT TO FORMER GASOLINE UST EXCAVATION (SEE DRAWING 2) GRAB GROUNDWATER SAMPLE COLLECTED.*

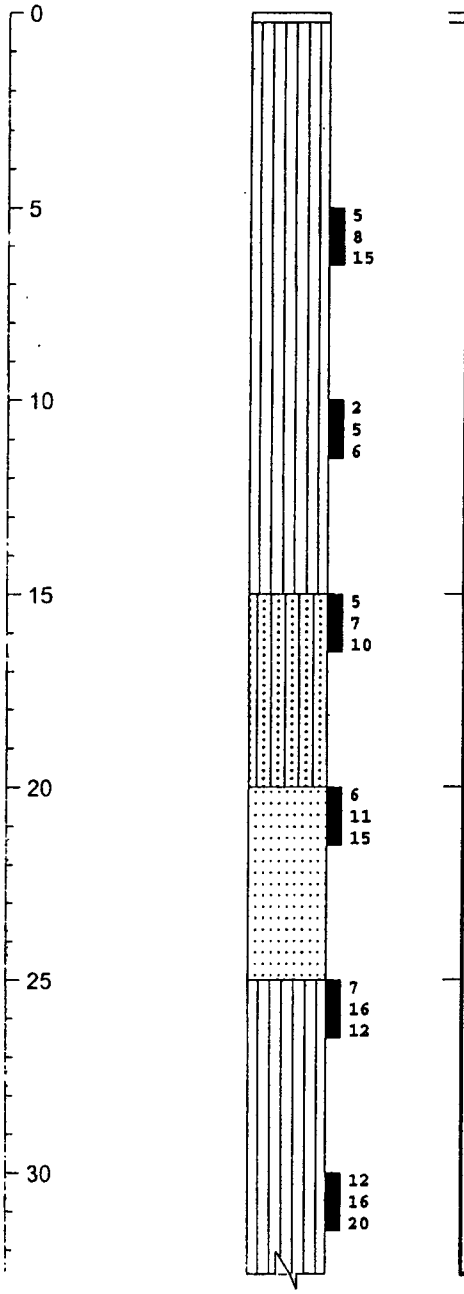
GEOTRACKER ID#:T0603900105

LOG OF SOIL BORING

MOORE TWINING ASSOCIATES, INC.

BORING SB2

Project: LUPE MENDOZA ESTATE
Project Number: D91401.01
Location: 247 ROBERTSON, CHOWCHILLA
Date Started: JULY 11, 2008
Logged By: S. VAUGHN
Date Completed: JULY 11, 2008
Drilled By: S. RILEY
Drill Type: CME 75 TRUCK
Auger Type: HSA
Depth to Groundwater: 47.7 FT.
Elevation: N/A



DEPTH (feet)	USCS	Soil Description	Blows per foot	Remarks
0	AC	Concrete surface		
	ML	Silt, clayey, very stiff, moist, olive green to yellow brown, slight petroleum odor	23	PID=4.0
10		Same as above, stiff	11	PID=2.5
15	SM	Sand, silty, clayey, well graded, medium dense, moist, yellow to brownish red, strong petroleum odor	17	PID=0.0
20	SW	Sand, silty, well graded, fine to medium grained, medium dense, moist, light brown to red, slight petroleum odor	26	PID=141.1
25	ML	Silt, sandy, very stiff, moist, yellow to light brown, strong petroleum odor	28	PID=197.4
30		Same as above, hard	36	PID=58.8

Notes: *BORING LOCATED APPROXIMATELY 15 FEET SOUTHEAST OF FORMER GASOLINE UST EXCAVATION (SEE DRAWING 2).*

GEOTRACKER ID#:T0603900105

LOG OF SOIL BORING

MOORE TWINING ASSOCIATES, INC.

BORING SB2

Project: LUPE MENDOZA ESTATE
Project Number: D91401.01
Location: 247 ROBERTSON, CHOWCHILLA
Date Started: JULY 11, 2008
Logged By: S. VAUGHN
Date Completed: JULY 11, 2008
Drilled By: S. RILEY
Drill Type: CME 75 TRUCK
Auger Type: HSA
Depth to Groundwater: 47.7 FT.
Elevation: N/A

DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	Blows per foot	Remarks
35	3 5 11	SM	Sand, silty, medium dense, moist, yellow to light brown, strong petroleum odor	16	PID=924
40	4 6 14	SC	Sand, clayey, medium dense, moist, olive green to brown, strong petroleum odor	20	PID=89.3
45	9 19 24		Same as above, dense	43	PID=41.1
50	5 15 12	ML	Silt, clayey, very stiff, wet, gray to olive green, slight petroleum odor	27	
55			BOB		
60					
65					

Notes: *BORING LOCATED APPROXIMATELY 15 FEET SOUTHEAST OF FORMER GASOLINE UST EXCAVATION (SEE DRAWING 2).*

GEOTRACKER ID#:T0603900105

LOG OF SOIL BORING

BORING SB3

Project: LUPE MENDOZA ESTATE
Project Number: D91401.01
Location: 247 ROBERTSON, CHOWCHILLA
Date Started: JULY 11, 2008
Logged By: S. VAUGHN
Date Completed: JULY 11, 2008
Drilled By: S. VAUGHN
Drill Type: HAND AUGER
Auger Type: 4" DIAMETER
Depth to Groundwater: NOT ENCOUNTERED
Elevation: N/A

DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	Blows per foot	Remarks
		GP	Gravel, coarse grained and rounded, silty, sandy, poorly graded, moist to dry		
2					
4					
		SW	Sand, gravelly, well graded, moist, red to reddish brown, no odor		PID=2.5
6					
8					
10			Same as above, less gravel		PID=0.1
			BOB		
12					

Notes: *BORING LOCATED ADJACENT TO FORMER WASTE OIL UST EXCAVATION (SEE DRAWING 2)*

GEOTRACKER ID#:T0603900105

TECHNICON
ENGINEERING SERVICES, Inc.

4889 N. Brawley Ave., #108
Fresno, CA 93722

Ph: (559) 276-9311
Fax: (559) 276-9344

Project: Aquino's Exxon Job #: 13317

Boring #: B-1 Location: See Figure 2

Drilled By: Technicon Engineering Services Inc.		Started: 08/10/04	Finished: 08/10/04
Equipment: CME 55D		Surface Elevation:	
Auger Type: 7.5 Hollow Stem Auger		Completed Depth: 50	
Logged By: AMJ	Checked By: AC	Groundwater Depth: 50	

Depth (Feet)	Description	Sample Type	Blows per Foot	Moisture Content (%)	Dry Density (pcf)	PPM	LEL	Remarks
0	Silty SAND (SM), brown, fine to medium grain, loose moist.							
5						0.2		Hydrocarbon odor
10						148		Hydrocarbon odor
	Sandy SILT (MLSD), brown, stiff, fine grain sand, moist.							
15					21.5	21.5		Hydrocarbon odor
20						62.5		Hydrocarbon odor
	Silty SAND (SM), brown, fine grain, moist.							
25						58.0		Hydrocarbon odor
30	Fine to medium grain.					47.0		Hydrocarbon odor
	SILT (ML), brown, fine grain sand, moist.							
35						180		Hydrocarbon odor

GEOTRACKER ID#:T0603900129

TECHNICON
ENGINEERING SERVICES, Inc.

4539 N. Brawley Ave., #108
Fresno, CA 93722

Ph: (559) 276-9311
Fax: (559) 276-9344

Project: Aquino's Exxon Job #: 13317

Boring #: B-1 Location: See Figure 2

Drilled By: Technicon Engineering Services Inc.		Started: 08/10/04	Finished: 08/10/04
Equipment: CME 55D		Surface Elevation:	
Auger Type: 7.5 Hollow Stem Auger		Completed Depth: 50	
Logged By: AMJ	Checked By: AC	Groundwater Depth: 50	

Depth (Feet)	Description	Sample Type	Blows per Foot	Moisture Content (%)	Dry Density (pcf)	PPM	LEL	Remarks
40						78		Hydrocarbon odor
45								Hydrocarbon odor
					16.0	68		Hudrocarbon odor
50	Bottom of Boring at 50'							
55								
60								
65								
70								
75								

GEOTRACKER ID#: T0603900129

TECHNICON
ENGINEERING SERVICES, Inc.

4539 N. Brawley Ave., #108
Fresno, CA 93722

Ph: (559) 276-9311
Fax: (559) 276-9344

Project: Aquino's Exxon Job #: 13317

Boring #: B-2 Location: See Figure 2

Drilled By: Technicon Engineering Services Inc.		Started: 08/10/04	Finished: 08/10/04
Equipment: CME 55D		Surface Elevation:	
Auger Type: 7.5 Hollow Stem Auger		Completed Depth: 50	
Logged By: AMJ	Checked By: AC	Groundwater Depth: 50	

Depth (Feet)	Description	Sample Type	Blows per Foot	Moisture Content (%)	Dry Density (pcf)	PPM	LEL	Remarks
0	Silty SAND (SM), brown, fine to medium grain, loose moist.							
5						1.5		Hydrocarbon odor
10						93.5		Hydrocarbon odor
	Sandy SILT (MLSD), brown, stiff, fine grain sand, moist.							
15						878.0		Hydrocarbon odor
20						1,068		Hydrocarbon odor
	Silty SAND (SM), brown, fine grain, moist							
25						1,156		Hydrocarbon odor
30	Fine to medium grain.					682		Hydrocarbon odor
	SILT (ML), brown, fine grain sand, moist.							
35						194		Hydrocarbon odor

GEOTRACKER ID#:T0603000129

TECHNICON
ENGINEERING SERVICES, Inc.

4539 N. Brawley Ave., #108
Fresno, CA 93722

Ph: (559) 276-9311
Fax: (559) 276-9344

Project: Aquino's Exxon Job #: 13317

Boring #: B-2 Location: See Figure 2

Drilled By: Technicon Engineering Services Inc.		Started: 08/10/04	Finished: 08/10/04
Equipment: CME 55D		Surface Elevation:	
Auger Type: 7.5 Hollow Stem Auger		Completed Depth: 50	
Logged By: AMJ	Checked By: AC	Groundwater Depth: 50	

Depth (Feet)	Description	Sample Type	Blows per Foot	Moisture Content (%)	Dry Density (pcf)	PPM	LEL	Remarks
40						1,025		Hydrocarbon odor
45						598		Hydrocarbon odor
						37.1		Hudrocarbon odor
50	Bottom of Boring at 50'							
55								
60								
65								
70								
75								

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-1

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

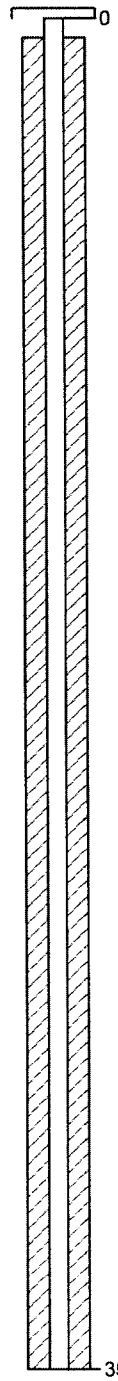
Date Completed	: 4/15/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
0						
5	SM		SILTY SAND, dark yellowish brown (10YR 4/2), poorly graded, fine to medium grained, subrounded to rounded, loose, dry, no odor		2-5-50 for 4	0.0
10	ML		SANDY SILT, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subangular to subrounded, dense, dry, no odor		14-26-24	0.0
15					6-12-19	0.0
20	SM		SILTY SAND, moderate olive brown (5Y 4/4), very fine to fine grained, subrounded to rounded, moderately dense to dense, damp, no odor		6-5-10	0.0
25			With CLAY, fine to coarse grained, slightly plastic, dense, moderately stiff, slight odor		4-11-18	0.7
30	ML		CLAYEY SILT, moderate olive brown (5Y 4/4), poorly graded, slighty plastic, dense, moderately stiff, damp, moderate odor		3-4-10	225
35						

Well: AS-1



Boring Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 65.5 ft.

WELL SREEN
Material : microbubble diffuser- 65.5-67.5 ft

FILTER PACK
Material : #3 sand- 63.5-68.5 ft

ANNULUS SEAL
Material : Bentonite- 61.5-63.5 ft

GROUT
Material : Type II-V cement- 0.5-61.5 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-1

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

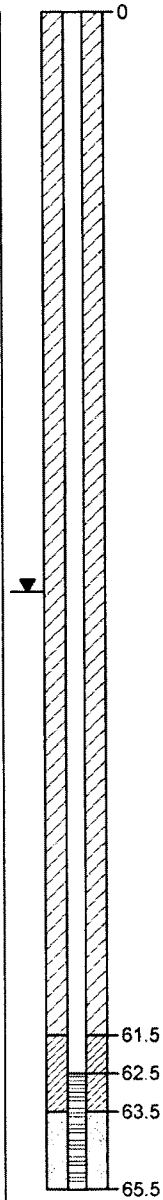
Date Completed	: 4/15/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
35	CL		SILTY CLAY, moderate olive brown (5Y 4/4), poorly graded, largely plastic, moderately dense, stiff to moderately stiff, damp, slight odor		2-4-8	42.1
40	SM		SILTY SAND, moderate olive brown (5Y 4/4), poorly graded, very fine to fine grained, moderately dense to dense, damp, strong odor		4-5-11	2528
45	ML		SANDY SILT with CLAY, poorly graded, very fine to fine grained, slightly plastic, dense, moderately stiff, damp to moist, slight odor		4-5-10	338
50	CL		SILTY CLAY, pale yellowish brown (10YR 6/2), poorly graded, mostly plastic, dense, moderately stiff, damp, slight odor		2-5-9	116
55	CL		Becomes largely plastic, stiff, no odor		2-5-5	16.8
60	ML		CLAYEY SILT, moderate yellowish brown (10YR 5/4), poorly graded, slightly plastic, dense, moderately stiff, damp, no odor		6-7-14	2.8
65	SM		SILTY SAND, pale brown (5YR 5/2), poorly graded, very fine to fine grained, subrounded to rounded, dense, moist Becomes medium to coarse grained, moderately dense to dense, No recovery			
70						

Well: AS-1



Boring Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 65.5 ft.

WELL SREEN
Material : microbubble diffuser- 65.5-67.5 ft

FILTER PACK
Material : #3 sand- 63.5-68.5 ft

ANNULUS SEAL
Material : Bentonite- 61.5-63.5 ft

GROUT
Material : Type II-V cement- 0.5-61.5 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-2

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

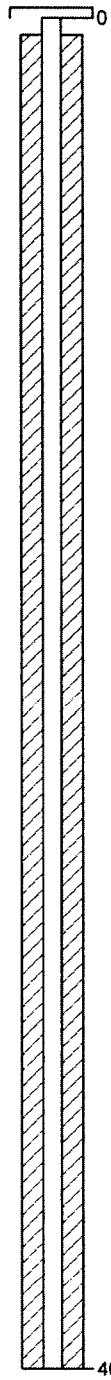
Date Completed	: 4/15/08-4/16/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 76.5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: 50
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
0	ML		SANDY SILT, moderate yellowish brown (10YR 5/4), cemented, very fine to fine grained, subangular to subrounded, very dense, dry, no odor			
5					4-8-20	0.6
10			Becomes dry, damp		5-4-5	0.0
15	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subangular to subrounded, dense, damp, no odor		2-4-8	0.2
20	ML		CLAYEY SILT, moderate yellowish brown (10YR 5/4), very fine grained, moderately dense, damp, no odor		3-5-6	0.0
25	SM		SILTY SAND, grayish olive (10Y 4/2), poorly graded, very fine to fine grained, subrounded to rounded, moderately dense, damp, slight odor		4-4-7	0.3
30			With trace CLAY, moderate yellowish brown (10YR 5/4), fine to medium grained, subangular to subrounded, dense to very dense, dry		13-16-26	8.3
35	ML		CLAYEY SILT, moderate yellowish brown (10YR 5/4), poorly graded, slightly plastic, dense, moderately stiff to stiff, damp, moderate odor to strong odor		2-7-9	2,742
40						

Well: AS-2



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 68 ft.

WELL SREEN
Material : microbubble diffuser- 68-70 ft

FILTER PACK
Material : #3 sand- 66-72 ft

ANNULUS SEAL
Material : Bentonite- 64-66 ft

GROUT
Material : Type II-V cement- 0.5-64 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-2

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

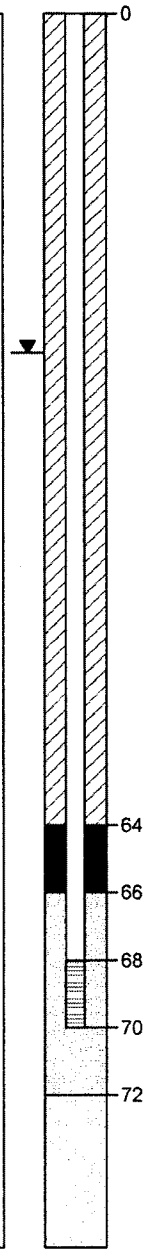
Project #AQU58.001

Date Completed	: 4/15/08-4/16/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 76.5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: 50
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
40	CL		SILTY CLAY, moderate olive brown (5Y 4/4), poorly graded, slightly plastic, dense, stiff, damp, moderate odor		3-6-12	894
45	ML		SILTY with CLAY, moderate olive brown (5Y 4/4), poorly graded, low plasticity, dense, stiff, damp, moderate odor to strong odor		3-3-6	471
50	CL		SILTY CLAY, pale yellowish brown (10YR 6/2), poorly graded, medium plasticity, dense, moderately stiff, damp, slight odor		2-2-2	62.5
55	ML		CLAYEY SILT, moderate olive brown (5Y 4/4), non plastic, moderately dense to dense, moderately stiff, damp, no odor		3-5-7	0.6
60	SW		SAND, well graded, very fine to very coarse grained, subrounded to rounded			
65						
70						
75	SP		SAND, pale yellowish brown (10YR 6/2), poorly graded, medium grained,subangular to subrounded, moderately dense, wet, no odor		8-9-14	7.2
80						



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 68 ft.

WELL SREEN
Material : microbubble diffuser- 68-70 ft

FILTER PACK
Material : #3 sand- 66-72 ft

ANNULUS SEAL
Material : Bentonite- 64-66 ft

GROUT
Material : Type II-V cement- 0.5-64 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-3

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

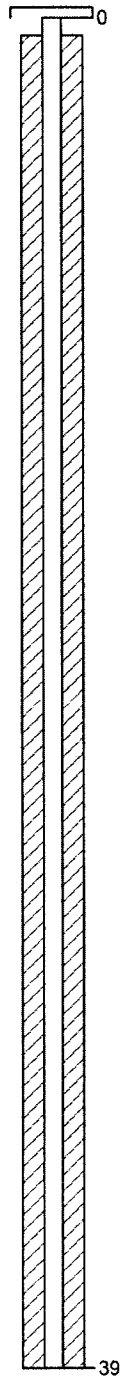
Date Completed	: 4/16/08-4/17/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 78
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: 50
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
0–8	SM		SILTY SAND, pale yellowish brown (10YR 6/2), poorly graded, fine to medium grained, subangular to rounded, loose, damp, no odor		5-7-30	3.1
8–12	SM		SANDY SILT, dark yellowish brown (10YR 4/2), very fine to fine grained, subrounded to rounded, dense, damp, no odor		1-7-9	0.0
12–16	ML		Becomes CLAYEY SILT, dense to very dense, dry		4-7-10	1.1
16–20	ML				4-12-14	1.9
20–24	ML		Becomes SILT, moderate olive brown (5Y 4/4), moderately dense, moist		2-5-8	2,839
24–28	ML		Becomes SANDY SILT, moderate yellowish brown (10YR 5/4), very fine to fine grained, subrounded to rounded, dense, dry, strong to very strong odor		10-20-25	1,647
28–32	ML					
32–36	ML		Becomes CLAYEY SILT, damp, moderate odor		5-9-10	1,917
36	ML					

Well: AS-3



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 68 ft.

WELL SREEN
Material : microbubble diffuser- 68-70 ft

FILTER PACK
Material : #3 sand- 65.5-71.5 ft

ANNULUS SEAL
Material : Bentonite- 63.5-665.5 ft

GROUT
Material : Type II-V cement- 0.5-63.5 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-3

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

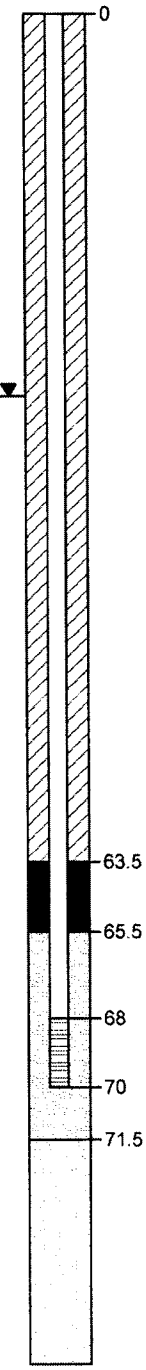
Date Completed	: 4/16/08-4/17/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 78
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: 50
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
39	ML		Becomes SANDY SILT, moderate olive brown (5Y 4/4), strong odor		3-5-8	1,521
43	ML		Becomes CLAYEY SILT, moderate odor		4-5-10	543
47						
51	CL		SILTY CLAY, moderate olive brown (5Y 4/4), low plasticity, dense, moderately stiff, damp, slight odor		2-3-5	221
55	SP		SAND with SILT, moderate olive brown (5Y 4/4), poorly graded, fine to medium grained, subangular to subrounded, moderately dense, wet, no odor		4-4-8	12.0
59						
63	SW		SAND, well graded, very fine to very coarse grained, subrounded to rounded			
67						
71						
75						

Well: AS-3



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 68 ft.

WELL SREEN
Material : microbubble diffuser- 68-70 ft

FILTER PACK
Material : #3 sand- 65.5-71.5 ft

ANNULUS SEAL
Material : Bentonite- 63.5-665.5 ft

GROUT
Material : Type II-V cement- 0.5-63.5 ft

10-10-2008 E:\boring logs\AQU58.001\AS-3.bor

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-4

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

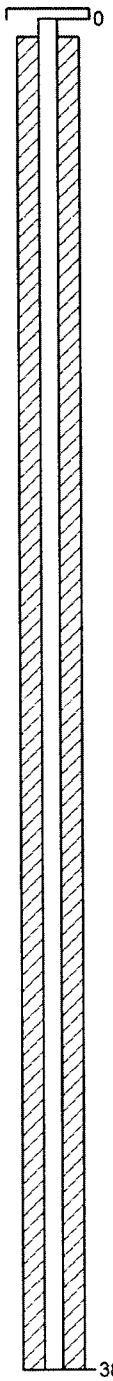
Date Completed	: 4/14/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 72.5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
0			Asphalt			
4	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, fine to coarse grained, subangular to subrounded, moderately dense, dry, no odor		3-11-44	0.3
8						
12	SC		CLAYEY SAND with SILT, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subrounded to rounded, moderately dense, damp, no odor		4-11-12	1.0
16	ML		CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately dense, damp, no odor		6-10-12	1.1
20	SC		CLAYEY SAND with SILT, grayish olive (10Y 4/2), poorly graded, moderately dense to dense, damp, slight odor		6-7-8	8.4
24	SP		SAND with SILT, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, slight to moderate odor		11-13-9	8.3
28			Becomes SAND, dusky yellow (5Y 6/4), moderately graded, fine to very coarse grained, very angular to subangular, loose, dry, slight odor		14-21-35	46.9
32	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, fine to medium grained, subangular to subrounded, moderately dense to dense, damp, slight to moderate odor			
36	CL		SILTY CLAY with trace SAND, moderate olive brown (5Y 4/4), very fine grained, slighty plastic, moderately stiff, damp, moderate to strong odor		7-9-15	1467

Well: AS-4



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 69 ft.

WELL SREEN
Material : microbubble diffuser- 69-71 ft

FILTER PACK
Material : #3 sand- 67-72.5 ft

ANNULUS SEAL
Material : Bentonite- 65-67 ft

GROUT
Material : Type II-V cement- 0.5-65 ft

10-10-2008 E:\boring logs\AQU58.001\AS-4.bor

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Well Log AS-4

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

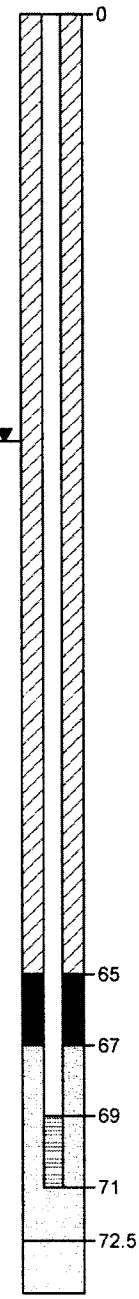
Date Completed	: 4/14/08	Bore Hole Dia. (in)	: 8
Geologist	: Tom Sullivan	Depth Drilled (ft)	: 72.5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Jason Klipfel	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
38						
			No SAND, damp to moist, strong odor		3-4-10	1479
42						
			Becomes low plasticity, slight odor		3-5-7	190
46	CL					
			Becomes pale yellowish brown (10YR 6/2), stiff, moist to wet		1-4-9	37.3
50						
54			Becomes dark yellowish brown (10YR 4/2)		4-7-4	8.3
			SAND with SILT, pale yellowish brown (10YR 6/2), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, saturated, slight odor			
58	SP		Becomes very fine to fine grained, damp, no odor			
			Becomes dark yellowish brown (10YR 4/2), fine to medium grained, dense, moist, slight odor			
62						
			SAND, well graded, very fine to very coarse grained, subrounded to rounded			
66	SW					
70			SAND, pale yellowish brown (10YR 6/2), poorly graded, fine to coarse grained, subangular to subrounded, dense, moist, no odor			
	SP					
	SM		SILTY SAND with CLAY, dark yellowish brown (10YR 4/2), poorly graded, very fine to fine grained, subrounded to rounded, very dense, damp, no odor		12-24-27	0.7
74						

Well: AS-4



Well Construction Information

BORING CONSTRUCTION

WELL CASING
Material : 1-inch Sched 40 PVC- 0 ft. to 69 ft.

WELL SREEN
Material : microbubble diffuser- 69-71 ft

FILTER PACK
Material : #3 sand- 67-72.5 ft

ANNULUS SEAL
Material : Bentonite- 65-67 ft

GROUT
Material : Type II-V cement- 0.5-65 ft

10-10-2008 E:\boring logs\AQU58.001\AS-4.bor

Boring Log SB-7A

APEX ENVIROTECH, INC.

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 8/4/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 53
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 50
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-7A

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
			AB		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, no odor		
5			Becomes subangular, very dense		
			Becomes dense		
10			Not sampled		
15					
20					
25					
30					
35					
40			No recovery		
45					
50					
55					

53

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-53 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-8

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 8/5/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 52
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 47
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-8

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subangular to subrounded, loose to moderately dense, damp, no odor		
5			Not sampled		
40	CL		SANDY CLAY, moderate yellowish brown (10YR 5/4) mottled with light olive gray (5Y 5/2), fine to medium grained, subangular, slightly plastic, stiff, moist, slight odor		51.2
45					1.2
	SW		SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained, subangular to rounded, moderately dense, wet, no odor		
50	CL				0.3
			CLAY with SAND, moderate yellowish brown (10YR 5/4), very fine to fine grained, subrounded, slightly plastic, stiff, moist, no odor		0.0
55			Becomes CLAY, mostly plastic, moderately stiff		

52

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-52 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-9

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 6/13/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 51
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 46
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Boring: SB-9

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subrounded, loose to moderately dense, dry to damp, no odor		
5			Not sampled		
40	CL		SANDY CLAY, moderate brown (5YR 4/4), very fine grained, subrounded, largely plastic, soft, damp to moist, slight odor		786
			Becomes moist		
45					8.6
			Becomes wet		
50					1.0
51					

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-51 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-10

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 7/2/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 48
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 45
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-10

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	Blow Count	PID
0			Asphalt			
			AB			
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, fine to medium grained, subrounded, moderately dense, damp, no odor			
5			No sampled, moderate odor			
10						
15						
20						
25						
30						
35						
40			SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4) with light olive gray (5Y 5/2), moderately graded, fine to medium grained, subrounded, damp, strong odor		1,149	
	SM		Becomes moderate yellowish brown (10YR 5/4), fine to coarse grained, subangular to subrounded, wet, moderate odor		150	
45						
50						

48

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-48 ft

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GEOTRACKER ID#:T0603900129

Boring Log SB-11

APEX ENVIROTECH, INC.

Aquino's Towing
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 4/15/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 55
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Frank Rowe	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-11

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
			AB		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, fine to medium grained, subrounded, loose to moderately dense, damp, no odor		
5			Not sampled		
40	SC		SAND with CLAY, dark yellowish brown (10YR 4/2), moderately graded, fine to coarse grained, subrounded, loose, damp, moderate odor		2,200
45			Becomes CLAYEY SAND, very fine to fine grained, moderately dense, damp to moist, slight odor		37.4
50			Not sampled		
55					

55

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-55 ft

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GEOTRACKER ID#:T0603900129

Boring Log SB-12

APEX ENVIROTECH, INC.

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 7/1/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 54
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Boring: SB-12

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Concrete		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subangular to subrounded, moderately dense to dense, damp, no odor		
5			No sampled		
40	CL		CLAY with trace SAND, moderate yellowish brown (10YR 5/4), very fine grained, well rounded, mostly plastic, soft, damp to moist, no odor		5.9
45	SC		CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subrounded to rounded, moderately dense, moist, no odor		11.3
50	CL		CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, stiff , damp, no odor		12.2
	SW		SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained, subangular to rounded, moderately dense, moist to wet, no odor		2.3
55					

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-54 ft

GEOTRACKER ID#:T0603900129

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APEX ENVIROTECH, INC.

Boring Log SB-13

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 6/12/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 46
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 43.5
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-13

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Concrete		
	SM		SILTY SAND, moderate brown (5YR 3/4), moderately graded, very fine to fine grained, subrounded, moderately dense, damp, no odor		
5			Becomes moderate yellowish brown (10YR 5/4), very dense, dry	—	1.4
			Not sampled		
10					
15					
20	CL		SANDY CLAY, dark yellowish brown (10YR 4/2), very fine grained, rounded, largely plastic, moderately stiff, damp, no odor	—	0.4
	SC		CLAYEY SAND, dark yellowish brown (10YR 4/2), moderately graded, fine to medium grained, subrounded, moderately dense to dense, damp, no odor		
25					

25

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-46 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-13

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 6/12/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 46
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 43.5
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Boring: SB-13

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
25	SC		Becomes very fine to fine grained, dense to very dense		4.6
					8.4
	SP		SAND, pale yellowish brown (10YR 6/2), moderately graded, fine to medium grained, subrounded, loose, damp, no odor		0.4
	SW				
30			SAND with trace GRAVEL, pale yellowish brown (10YR 6/2), fine to very coarse grained sand, very fine grained gravel, subangular to subrounded sand, subangular gravel, loose, damp, no odor		0.4
					0.2
	CL		CLAY with trace SAND, moderate yellowish brown (10YR 5/4), very fine grained, well rounded, slightly plastic, stiff, damp, no odor		0.3
			Highly plastic, moderately stiff, damp to moist		
35			Becomes SANDY CLAY, very fine to fine grained, mostly plastic, soft, moist		3.6
			CLAYEY SAND, olive gray (5Y 3/2), moderately graded, very fine to medium grained, subrounded, moderately dense, moist, no odor		5.0
40	SC		Becomes loose to moderately dense, wet		5.3
					1.0
			Becomes fine to coarse grained, subangular to subrounded, moderately dense		
45					0.9
					46
50					

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-46 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-14

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

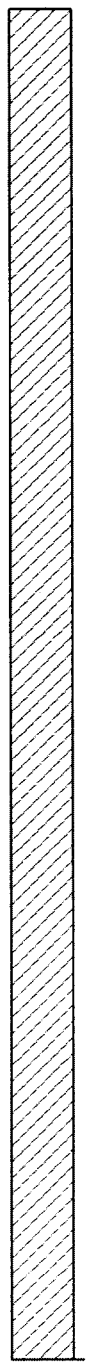
Date Completed	: 8/6/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 52
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 47
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-14

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
			AB		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to fine grained, subrounded, loose, damp, no odor		
5			Becomes pale yellowish brown (10YR 6/2), subangular to subrounded, very dense, dry to damp, Not sampled		
10					
15					
20					
25					



Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-46 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-14

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 8/6/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 52
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 47
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend: Sample Location; Not Submitted; No Recovery

Groundwater: Static Water Level; Initial Water Level

Boring: SB-14

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
27					
32	SC		CLAYEY SAND with GRAVEL, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained sand, medium grained gravel, subangular to subrounded sand, subrounded gravel, moderately dense, damp, no odor		1.9
	CL		CLAY with trace SAND, moderate yellowish brown (10YR 5/4), fine grained, rounded, some plasticity, stiff, damp to moist, no odor		
37	SC		CLAYEY SAND, moderate yellowish brown (10YR 5/4) mottled with light olive gray (5Y 5/2), moderately graded, very fine to medium grained, subrounded to rounded, loose to moderately dense, moist to wet, no odor to slight odor		2.4
42	CL		CLAY with SAND, moderate yellowish brown (10YR 5/4) mottled with light olive gray (5Y 5/2), fine grained, rounded, some plasticity, stiff, damp to moist, no odor		3.4
			No recovery		
47	SC		CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to subrounded, loose, moist, no odor		5.8
	CL		CLAY, moderate yellowish brown (10YR 5/4), low plasticity, stiff, moist, no odor		
	SC		CLAYEY SAND, moderately graded, very fine to coarse grained, subrounded to rounded, moist, wet to saturated, no odor		0.6
52	CL		CLAY, moderate yellowish brown (10YR 5/4), low plasticity, moderately stiff, moist, no odor		

52

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-46 ft

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APEX ENVIROTECH, INC.

Boring Log SB-15

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 8/5/08 & 8/7/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 52
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 49
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-15

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
0			Asphalt		
			AB		
	SM		SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subrounded to rounded, moderately dense, damp, no odor		
5			Not sampled		
10					
15					
20					
25					

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-52 ft

26

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

Boring Log SB-15

Former Aquino's Exxon
441 Robertson Boulevard
Chowchilla, CA

Project #AQU58.001

Date Completed	: 8/5/08 & 8/7/08	Bore Hole Dia. (in)	: 2
Geologist	: Tamera Rogers	Depth Drilled (ft)	: 52
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: 49
Driller	: Timothy Valles	Stc. Depth to Water (ft)	: ---
Method	: Direct Push		

Sample Legend
- Sample Location
- Not Submitted
- No Recovery

Groundwater
- Static Water Level
- Initial Water Level

Boring: SB-15

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Sample	PID
26					
31					2.8
36	CL		SANDY CLAY, moderate yellowish brown (10YR 5/4), very fine to fine grained, subrounded, some plasticity, stiff, damp, no odor		
41			Slight odor		103
			Becomes moderate yellowish brown (10YR 5/4) mottled with light olive gray (5Y 5/2), moderate odor		91.0
46	SC		CLAYEY SAND with GRAVEL, well graded, very fine to very coarse grained sand, very fine to fine grained gravel, subangular to subrounded sand, subangular gravel, moderately dense, moist, moderate odor		149
	CL		CLAY with trace SAND, moderate yellowish brown (10YR 5/4), very fine grained, well rounded, no plasticity, hard, moist, no odor		0.4
51			Becomes CLAY with SAND, very fine to medium grained, subrounded, low plasticity, stiff, wet		0.2
					52

Boring Construction Information

BORING CONSTRUCTION

GROUT
Material : Type II-V cement- 0-52 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

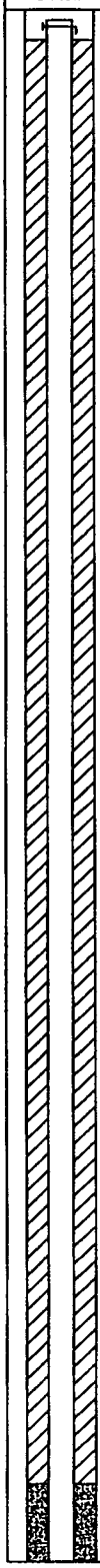
BORING/WELL NO: MW-1

Project: Former Aquinos Exxon | Location: 441 Robertson Boulevard Chowchilla, CA | Project # AQU58.001

Date Drilled: 2-20-06 | Logged By: C. Martin | Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. | Driller: Amador Arroyo | Method: Hollow Stem Auger

Bore Hole Diameter:	8	In.	Depth Drilled:	63	Ft.	Depth To Water:	Initial:		Ft.	Static: 49 Ft.
Casing Type:	PVC	Diameter:	2	In.	Schedule:	40	Interval:	0.25	Ft.	To: 43 Ft.
Screen Type:	PVC	Diameter:	2	In.	Slot Size:	0.020 In.	Interval:	43	Ft.	To: 63 Ft.
Filter Pack Type:	Lonestar #3 Sand						Interval:	41	Ft.	To: 63 Ft.
Seal Type:	Bentonite						Interval:	38	Ft.	To: 41 Ft.
Grout Type:	Type 1-11 Cement Slurry						Interval:	0.75	Ft.	To: 38 Ft.



Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
0				
2				
4	0.0	19 50	SW	Sand with clay, dark yellowish brown to moderate yellowish brown, medium sorted, dry to damp, no odor.
6				
8				
10	3.2	7 9 15	SM	Silty sand with clay, very fine to fine grained sand, moderate yellowish brown, medium sorted, subangular to subrounded, medium density, damp to moist, no odor.
12				
14	0.3	7 9 18	SW	Sand with clay, very fine to fine grained sand, moderate yellowish brown, medium sorted, subangular to subrounded, medium density, damp, slight to moderate odor.
16				
18				
20	6.3	12 19 24	ML	Clayey silt with sand, grayish olive green to moderate yellowish brown, medium dense, damp, moderate odor.
22				
24	603	7 8 10	SP	Sand, fine grained, light olive gray, well sorted, loose, damp, moderate to strong odor.
26				
28				
30	484	8 11 15	CL	Sandy clay, moderate yellowish brown to grayish olive green, slight plasticity, soft, damp, moderate odor.
32				
34				
36	3,080	4 4 9		Silty clay with sand, moderate yellowish brown, slight plasticity, soft, moist, moderate to strong odor.
38			SC	
40		7		

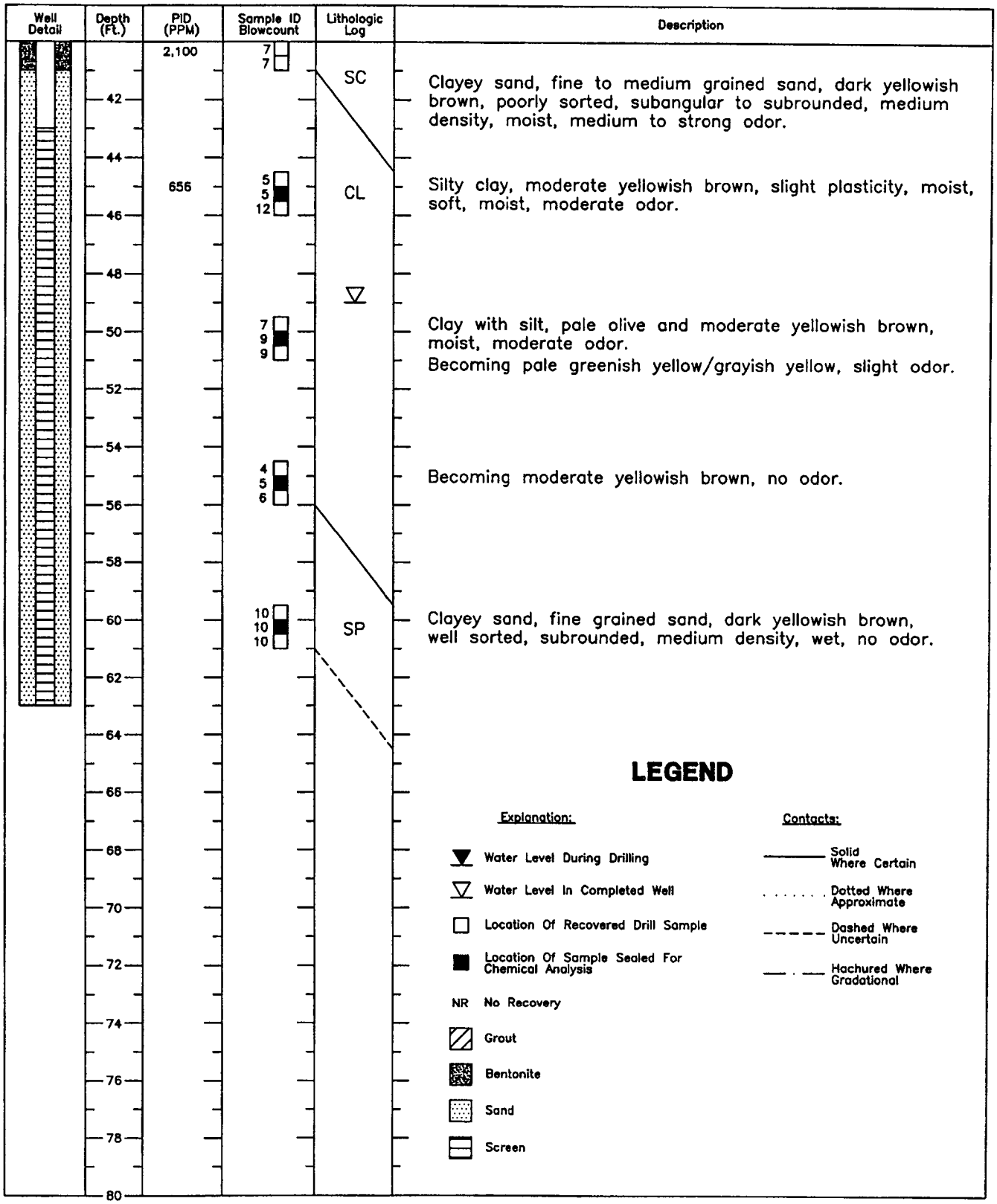
GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: MW-1

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:



APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: MW-2

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-20-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 63 Ft. Depth To Water: Initial: Ft. Static: 48 Ft.

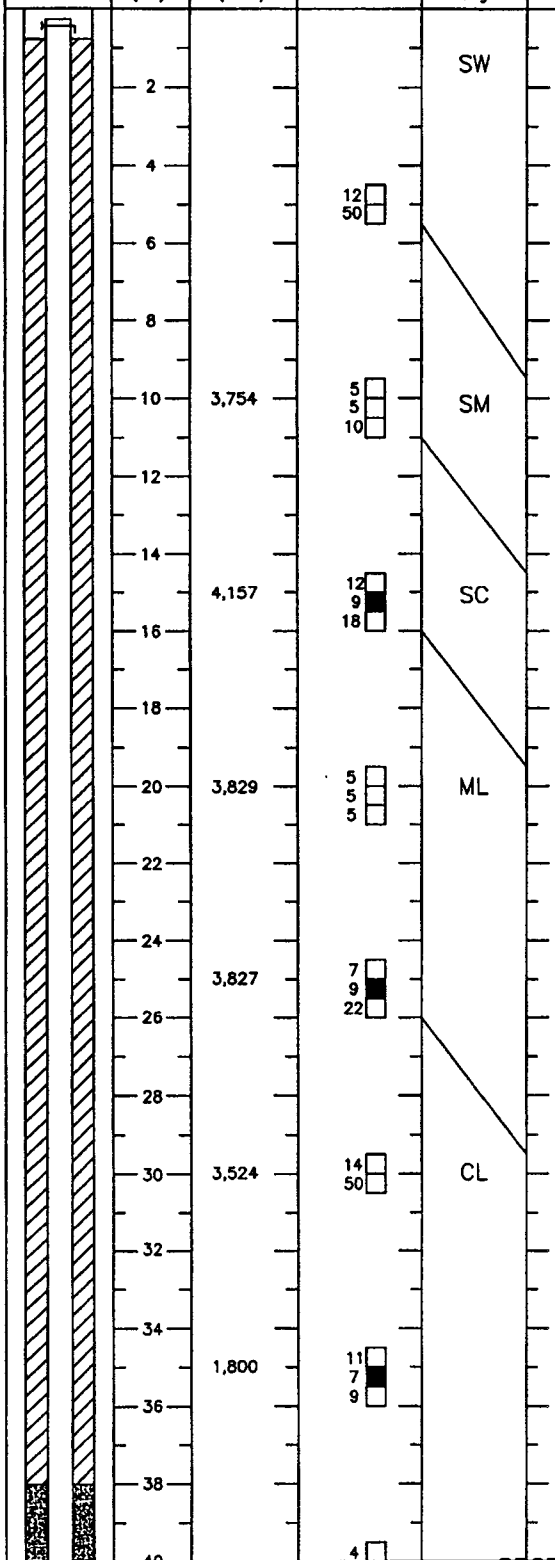
Casing Type: PVC Diameter: 2 In. Schedule: 40 Interval: 0.25 Ft. To: 43 Ft.

Screen Type: PVC Diameter: 2 In. Slot Size: 0.020 In. Interval: 43 Ft. To: 63 Ft.

Filter Pack Type: Lonestar #3 Sand Interval: 41 Ft. To: 63 Ft.

Seal Type: Bentonite Interval: 38 Ft. To: 41 Ft.

Grout Type: Type 1-11 Cement Slurry Interval: 0.75 Ft. To: 38 Ft.



Description
Sand with clay, fine to medium grained sand, dark yellowish brown, poorly sorted, subangular to rounded, loose to medium dense, damp, no odor.
Silty sand with clay, fine to medium grained sand, moderate yellowish brown/light olive gray, poorly sorted, subangular to rounded, medium dense, damp, moderate to strong odor.
Clayey sand, moderate yellowish brown, dense, strong odor.
Clayey silt with sand, very fine to fine grained sand, moderate yellowish brown/pale yellowish brown, well sorted, subangular to rounded, medium dense to dense, damp, strong odor.
Sandy clay, moderate yellowish brown, poorly sorted, no plasticity, medium hard, damp, strong odor.
Silty clay, pale olive/moderate yellowish brown, slight plasticity, soft, damp, strong to very strong odor.

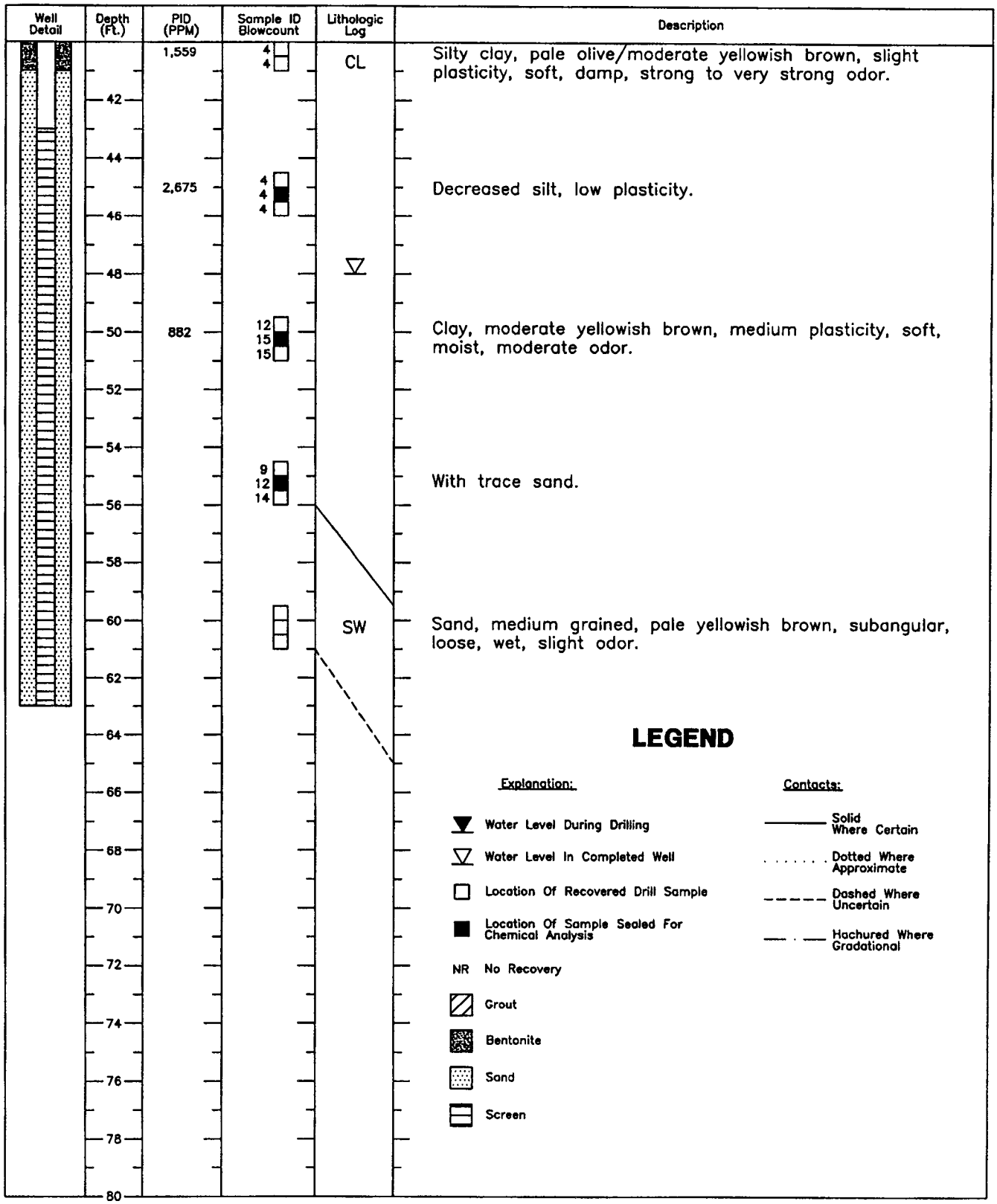
GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: MW-2

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:



LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: MW-3

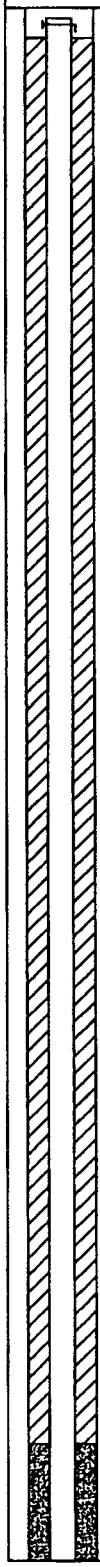
Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-21-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 63 Ft. Depth To Water: Initial: Ft. Static: 50.2 Ft.

Casing Type:	PVC	Diameter:	2	In.	Schedule:	40	Interval:	0.25 Ft. To:	43 Ft.
Screen Type:	PVC	Diameter:	2	In.	Slot Size:	0.020 In.	Interval:	43 Ft. To:	63 Ft.
Filter Pack Type:	Lonestar #3 Sand						Interval:	41 Ft. To:	63 Ft.
Seal Type:	Bentonite						Interval:	37 Ft. To:	41 Ft.
Grout Type:	Type 1-11 Cement Slurry						Interval:	0.75 Ft. To:	37 Ft.



Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
2		2, 3, 5	SW	Sand with clay, very fine to medium grained sand, dark yellowish brown, poorly sorted, angular to subrounded, loose to medium dense, damp, no odor.
10	2,199	9, 10, 16	ML	Clayey silt with sand, light olive gray, medium dense, damp, medium to strong odor.
14	4,800	12, 15, 10	SC	Clayey sand, very fine to medium grained sand, moderate yellowish brown, poorly sorted, subangular to subrounded, medium dense, dry to damp, strong odor.
20	3,848	4, 6, 8	ML	Clayey silt, moderate yellowish brown, medium dense, damp, strong odor.
24	3,814	7, 10, 16	SC	Clayey sand, very fine to medium grained, light olive gray, poorly sorted, subangular to rounded, medium dense, damp, strong odor.
26			SW	Sand, very fine to medium grained, subangular to rounded, damp, strong odor, poorly sorted.
30	3,332	50	SC	Clayey sand, very fine to medium grained sand, light brown/ moderate yellowish brown, poorly sorted, subangular to rounded, dry to damp, medium to strong odor.
36	1,193	9, 12, 13	CL	Silty clay, pale olive/moderate yellowish brown, no plasticity, medium dense, damp, moderate to strong odor.
40		5		

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: MW-3

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	42	1,652	5 10	CL	Silty clay, pale olive/moderate yellowish brown, no plasticity, medium hard, damp, moderate to strong odor.
	44				
	46	2,454	3 5 10		Becoming damp to moist, moderate to strong odor.
	48				
	50		5 5 8	SC	Sandy clay, moderate yellowish brown, low plasticity, soft, moist to wet, slight odor. Becoming grayish yellow/pale greenish yellow.
	52				
	54		12 12 18	ML	Clayey silt with sand, dark and moderate yellowish brown, medium dense to dense, moist to wet, no odor.
	56				
	58				
	60		12 50	SW	Sand, very fine to coarse grained, light olive gray, poorly sorted, loose, wet, no odor.
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				

LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-3

Project: Former Aquinos Exxon | Location: 441 Robertson Boulevard Chowchilla, CA | Project # AQU58.001

Date Drilled: 2-22-06 | Logged By: C. Martin | Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. | Driller: Amador Arroyo | Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. | Depth Drilled: 55 Ft. | Depth To Water: Initial: Ft. Static: Ft.

Casing Type: | Diameter: In. | Schedule: | Interval: Ft. To: Ft.

Screen Type: | Diameter: In. | Slot Size: In. | Interval: Ft. To: Ft.

Filter Pack Type: | Interval: Ft. To: Ft.

Seal Type: | Interval: Ft. To: Ft.

Grout Type: Type 1-11 Cement Slurry | Interval: 0 Ft. To: 55 Ft.

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	2				
	4		50	SW	Sand with clay, very fine to medium grained, moderate yellowish brown, poorly sorted, subangular to subrounded, medium dense, damp, slight odor.
	6				
	8				
	10	2.7	10 10 20	SC	Clayey sand, very fine to fine grained sand, moderate yellowish brown, medium dense, damp, no odor.
	12				
	14		15 14 25	SW	Sand with clay, very fine to medium grained sand, pale yellowish brown, poorly sorted, loose, dry, no odor.
	16				
	18				
	20	64	12 12 19	ML	Clayey silt, light olive gray, medium dense, damp, moderate odor.
	22				
	24				
		15	12 50	SW	Sand, very fine to coarse grained, yellowish gray, poorly sorted, subangular to rounded, loose, dry, no odor.
	26				
	28				
	30	46	50	SC	Sandy clay, dark yellowish orange, no plasticity, medium hard to stiff, dry, slight odor.
	32				
	34				
		1,915	26 50	CL	Silty clay, moderate yellowish brown, no to slight plasticity, soft, damp, strong odor.
	36				
	38				
	40		5	ML	

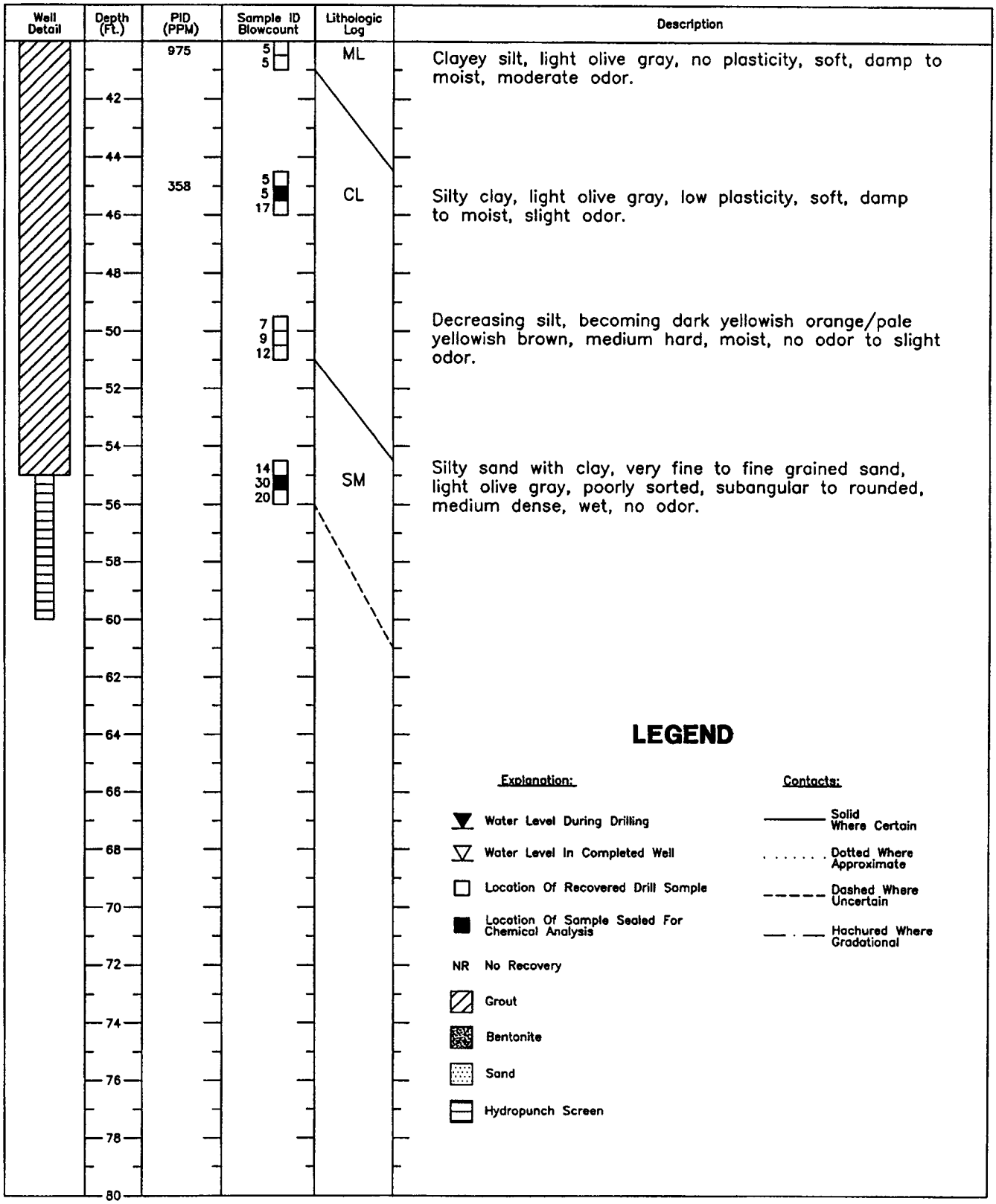
GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-3

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:



LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Hydropunch Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-4

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-22-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 55 Ft. Depth To Water: Initial: Ft. Static: Ft.

Casing Type: Diameter: In. Schedule: Interval: Ft. To: Ft.

Screen Type: Diameter: In. Slot Size: In. Interval: Ft. To: Ft.

Filter Pack Type: Interval: Ft. To: Ft.

Seal Type: Interval: Ft. To: Ft.

Grout Type: Type 1-11 Cement Slurry Interval: 0 Ft. To: 55 Ft.

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40	0.0	50	SC	Clayey sand, very fine to fine grained sand, dark yellowish orange, medium sorted, loose to medium dense, dry, no odor.
		0.0	26, 50		Clayey sand with silt, very fine to fine grained sand, moderate yellowish brown, medium sorted, dense, damp, no odor.
			50		Becoming dry, no odor.
		0.0	14, 50	CL	Silty clay, moderate yellowish brown, slight plasticity, soft to medium hard, damp, no odor.
		7.8	9, 12, 18	SM	Silty sand with clay, very fine to fine grained sand, light olive gray, poorly sorted, medium dense, damp, moderate to strong odor.
		0.0	28, 50	SC	Clayey sand, very fine to medium grained sand, dark yellowish brown, poorly sorted, loose to medium dense, damp, slight to moderate odor.
		3,319	9, 16, 12		Clayey sand with silt, very fine to fine grained sand, moderate yellowish brown, poorly sorted, subangular to rounded, medium dense to dense, damp, moderate to strong odor.
			11	ML	

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-4

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	42	2,283	20 20	ML	Clayey silt, light olive gray and light olive brown, dense, damp, moderate to strong odor.
	44				
	46	2,757	4 15 20		Increasing sand, becoming moist, slight to moderate odor.
	48				
	50		12 12 14	CL	Silty clay with trace sand, moderate yellowish brown, moist to wet, slight odor.
	52				
	54				
	56		5 5 5		Becoming moderate yellowish brown/light brown.
	58			SW	Sand, very fine to coarse grained, dark yellowish brown, poorly sorted, subangular to rounded, loose, wet, no odor.
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				

LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Hydropunch Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-5

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-21-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 55 Ft. Depth To Water: Initial: Ft. Static: Ft.

Casing Type: Diameter: In. Schedule: Interval: Ft. To: Ft.

Screen Type: Diameter: In. Slot Size: In. Interval: Ft. To: Ft.

Filter Pack Type: Interval: Ft. To: Ft.

Seal Type: Interval: Ft. To: Ft.

Grout Type: Type 1-11 Cement Slurry Interval: 0 Ft. To: 55 Ft.

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	2, 4, 6, 8		50	SW	Sand with clay, very fine to medium grained sand, moderate yellowish brown, poorly sorted, subangular to subrounded, medium dense, dry to damp, no odor.
	10	0.0	3, 9, 12	SM	Silty sand with clay, very fine to medium grained sand, moderate yellowish brown, poorly graded, subangular to subrounded, medium dense, damp, no odor.
	12, 14, 16	7.8	8, 10, 12	SC	Sandy clay, pale brown, no plasticity, soft, damp, slight odor.
	18, 20	39	15, 18, 22	ML	Clayey silt, olive gray, medium dense, damp, slight to moderate odor.
	22, 24, 26	98	12, 50	SC	Clayey sand, very fine to medium grained, olive gray, poorly sorted, subangular to subrounded, medium dense, damp, moderate odor.
	28, 30	110	50		Becoming moderate yellowish brown.
	32, 34, 36	3,500	5, 5, 10	CL	Silty clay with sand, moderate yellowish brown, moderate to strong odor.
	38, 40		4	ML	

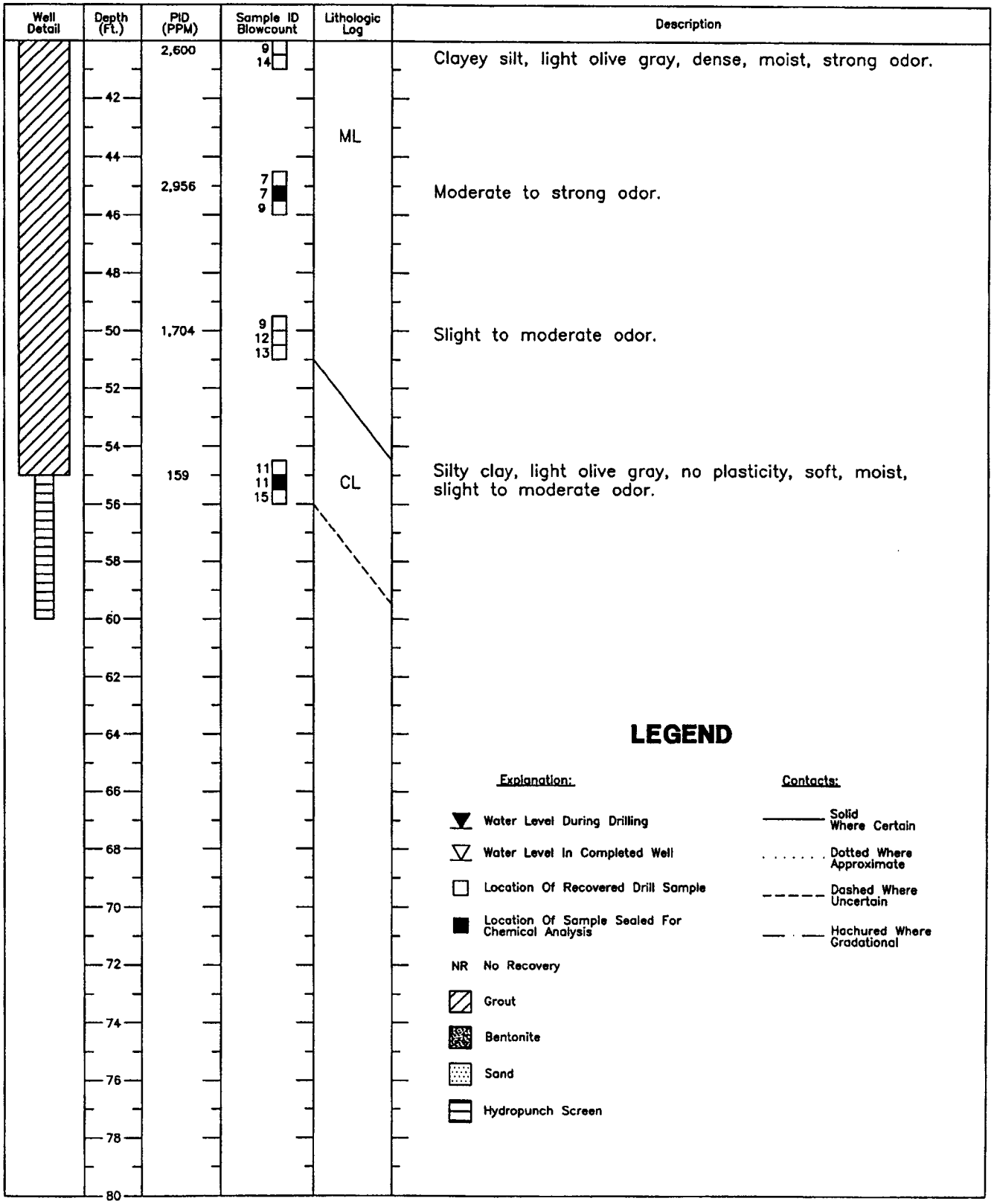
GEOTRACKER ID#: T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-5

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:



LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Hydropunch Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-6

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-21-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 55 Ft. Depth To Water: Initial: Ft. Static: Ft.

Casing Type: Diameter: In. Schedule: Interval: Ft. To: Ft.

Screen Type: Diameter: In. Slot Size: In. Interval: Ft. To: Ft.

Filter Pack Type: Interval: Ft. To: Ft.

Seal Type: Interval: Ft. To: Ft.

Grout Type: Type 1-11 Cement Slurry Interval: 0 Ft. To: 55 Ft.

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	2				
	4		50	SW	Sand with clay, very fine to medium grained, dark yellowish brown, poorly sorted, subangular to subrounded, medium dense, dry, no odor.
	6				
	8				
	10	0.0	5 5 10	SC	Clayey sand with silt, very fine to medium grained sand, moderate yellowish brown, poorly sorted, medium dense, damp, no odor.
	12				
	14				
	16	0.0	22 50		No silt, becoming dense, no odor.
	18				
	20	0.0	12 14 18	CL	Silty clay with sand, moderate yellowish brown, no plasticity, medium hard, damp, no odor.
	22				
	24				
	26	15	26 50	ML	Clayey silt with sand, light olive gray, slight odor.
	28				
	30	212	18 50	CL	Sandy clay, moderate yellowish brown and dark yellowish orange, no plasticity, medium hard, damp, slight odor.
	32				
	34				
	36	2,944			Silty clay, moderate yellowish brown, no plasticity, soft, damp, slight odor.
	38				
	40		10	SC	

GEOTRACKER ID#:T10603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-6

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	42	1,603	10 10	SC	Clayey sand and silt, very fine to medium grained sand, dark yellowish brown, poorly sorted, subangular to sub-rounded, medium dense to dense, damp, moderate to strong odor.
	44				
	46	498	26 20 12	ML	Clayey silt with sand, light olive gray, dense, moist, strong odor.
	48				
	50		7 7 12	CL	Silty clay, moderate yellargelyish brown, slight to largely plasticity, soft, moist to wet, slight odor. Becoming grayish yellow/pale greenish yellow.
	52				
	54		10 11 12		Silty clay with sand, moderate yellowish brown, slight plasticity, soft, moist to wet, slight odor.
	56				
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				

LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Hydropunch Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-7

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Date Drilled: 2-22-06 Logged By: C. Martin Reviewed By: Mike S.

Drilling Company: Woodward Drilling Co., Inc. Driller: Amador Arroyo Method: Hollow Stem Auger

Bore Hole Diameter: 8 In. Depth Drilled: 50 Ft. Depth To Water: Initial: Ft. Static: Ft.

Casing Type: Diameter: In. Schedule: Interval: Ft. To: Ft.

Screen Type: Diameter: In. Slot Size: In. Interval: Ft. To: Ft.

Filter Pack Type: Interval: Ft. To: Ft.

Seal Type: Interval: Ft. To: Ft.

Grout Type: Type 1-11 Cement Slurry Interval: 0 Ft. To: 50 Ft.

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	2				
	4		50	SC	Clayey sand, very fine to fine grained sand, moderate yellowish brown, medium sorted, subangular to rounded, medium dense, damp, no odor.
	6				
	8				
	10	0.0	18 50		Becoming dense, no odor.
	12				
	14	0.0	12 50	CL	Sandy clay, moderate yellowish brown, no plasticity, medium hard, damp, no odor.
	16				
	18				
	20	0.0	4 8 12		Silty clay, moderate brown, dense, damp, no odor.
	22				
	24				
	26	0.0	20 50	SW	Sand, very fine to coarse grained, light olive gray, poorly sorted, loose, dry, no odor.
	28				
	30	18		SC	Clayey sand, very fine to coarse grained sand, moderate yellowish brown/dusky yellowish brown, poorly sorted, medium dense, damp, moderate odor.
	32				
	34				
	36	2,596	15 50	CL	Silty clay, moderate yellowish brown, slight plasticity, soft, damp to moist, slight odor.
	38				
	40		5	SC	

GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.
11244 Pyrites Way
Gold River, Ca 95670

BORING/WELL NO: SB-7

Project: Former Aquinos Exxon Location: 441 Robertson Boulevard Chowchilla, CA Project # AQU58.001

Comments:

Well Detail	Depth (Ft.)	PID (PPM)	Sample ID Blowcount	Lithologic Log	Description
	42	1,737	5 5	SC	Clayey sand, very fine to coarse grained sand, dark yellowish brown, poorly sorted, medium dense, moist to damp, moderate to strong odor.
	44				
	46	2,952	6 12 18		Becoming dark yellowish brown/light olive gray, moist, moderate to strong odor.
	48				
	50		5 6 7	CL	Clay with silt, dark yellowish orange, slight plasticity, soft to medium hard, moist to wet, slight to moderate odor.
	52				
	54				
	56				
	58				
	60				
	62				
	64				
	66				
	68				
	70				
	72				
	74				
	76				
	78				
	80				

LEGEND

Explanation:

- Water Level During Drilling
- Water Level In Completed Well
- Location Of Recovered Drill Sample
- Location Of Sample Sealed For Chemical Analysis
- NR No Recovery
- Grout
- Bentonite
- Sand
- Screen

Contacts:

- Solid Where Certain
- Dotted Where Approximate
- Dashed Where Uncertain
- Hachured Where Gradational

LOG OF WELL MW-5

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

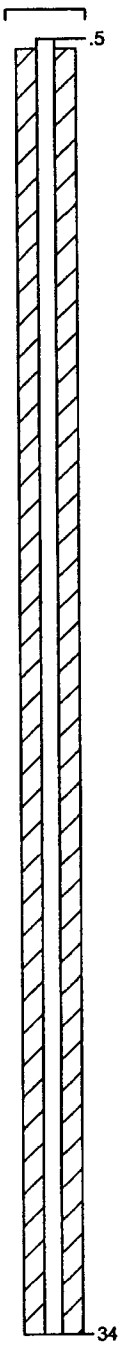
Project # AQU58.001

Date Completed	: 9/10/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: —
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Concrete.					
	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
10	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subrounded to rounded, loose, no odor.				5 5 5	0.1
15	Becomes dark yellowish brown (10YR 4/2), poorly graded, very fine to fine grained, moderately dense, damp.	SM			7 19 23	0.4
20	SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, no odor.	ML			7 9 9	0.0
25	SILTY SAND, grayish olive (10Y 6/2), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, no odor.	SM			13 17 29	0.0
	SAND, grayish olive (10Y 6/2), moderately graded, very fine to coarse grained, subangular to rounded, moderately dense, damp, no odor.	SP				
30	CLAYEY SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to coarse grained, subangular to subrounded, dense, damp, no odor.	SC			6 8 12	7.2

Well: MW-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 0.75 ft to 36 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-5

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

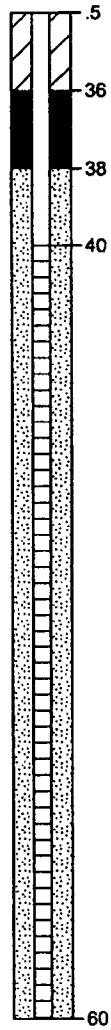
Project # AQU58.001

Date Completed	: 9/10/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: —
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
34	Becomes olive gray (5Y 3/2), very fine to medium grained, subrounded to rounded, moderately dense.	SC			5 7 14	372
39	CLAYEY SILTY SAND, moderate yellowish brown (10YR 5/4), very fine to coarse grained, subrounded to rounded, moderately dense, damp, slight odor.				10 12 18	141
44	Becomes CLAYEY SILT, light olive gray (5Y 5/2), damp to moist.	ML			9 12 15	1,006
49	CLAY, moderate yellowish brown (10YR 5/4) mottled with very pale orange (10YR 3/2), mostly plastic, very soft, moist, no odor.	CL			15 25 25	1.8
54	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subrounded to rounded, loose, wet, no odor.	SP			12 16 19	0.3
59	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subrounded to rounded, moderately dense, moist, no odor.	SM				
64						

Well: MW-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 0.75 ft to 36 ft

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APEX ENVIROTECH, INC.

LOG OF WELL MW-6

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 9/11/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: —
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Concrete.					
	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
10	SILTY SAND, cemented, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subrounded to rounded, very dense, damp, no odor.	SM			15 22 37	0.0
15	SAND, moderate brown (5YR 4/4), moderately graded, very fine to coarse grained, subangular to subrounded, loose, damp, no odor.	SP			12 14 16	0.0
20	SILTY SAND, cemented, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subrounded to rounded, dense, damp, no odor. └Becomes poorly graded, very fine to fine grained, moderately dense.	SM			12 17 19	0.0
25	SAND with GRAVEL, moderate yellowish brown (10YR 5/4), well graded, very fine to coarse grained sand, very fine to fine grained gravel, subangular to rounded sand, subrounded to rounded gravel, loose, damp, no odor. └Becomes GRAVELLY SAND, light olive gray (5Y 5/2), very fine to very coarse grained sand, very fine to medium grained gravel, angular to rounded sand.	SW			7 15 15 7 9 12	0.0 0.0
35						

Well: MW-6

.5

35

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 39 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 39 ft to 59 ft

FILTER PACK
Material : #3 Sand- 37 ft to 59 ft

ANNULUS SEAL
Material : Bentonite- 35 ft to 37 ft

GROUT
Material : Type II-V cement- 0.75 ft to 35 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-6

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Chowchilla, CA

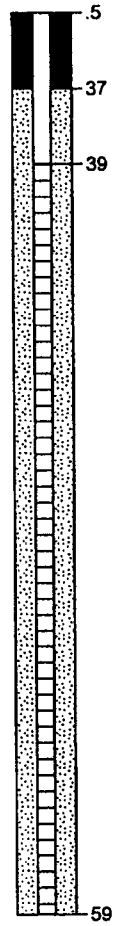
Project # AQU58.001

Date Completed	: 9/11/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: —
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
35	SILTY CLAY with SAND, moderate yellowish brown (10YR 5/4), very fine to medium grained, subrounded to rounded, slightly plastic, soft, damp, slight odor.	CL			13 12 15	140
40	SILTY SAND, moderate yellowish brown (10YR 5/4) mottled with grayish olive (10Y 4/2), moderately graded, very fine to coarse grained, subrounded to rounded, moderately dense, damp to moist, moderate odor.	SM			10 10 14	1,808
45	Becomes olive gray (5Y 3/2), poorly to moderately graded, very fine to medium grained, moderately dense.				8 9 10	151
50	CLAY, moderate yellowish brown (10YR 5/4), mostly plastic, soft, damp, no odor.	CL			12 18 26	0.7
55	SILT, moderate yellowish brown (10YR 5/4), dense, damp to moist, no odor.	ML			12 14 16	0.5
60	SAND, dark yellowish brown (10YR 4/2), poorly graded, very fine to medium grained, subrounded to rounded, loose, moist to wet, no odor.	SP			7 16 18	7.8
65						
70						

Well: MW-6



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 39 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 39 ft to 59 ft

FILTER PACK
Material : #3 Sand- 37 ft to 59 ft

ANNULUS SEAL
Material : Bentonite- 35 ft to 37 ft

GROUT
Material : Type II-V cement- 0.75 ft to 35 ft

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APEX ENVIROTECH, INC.

LOG OF WELL MW-7

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441 Robertson Boulevard
Chowchilla, CA

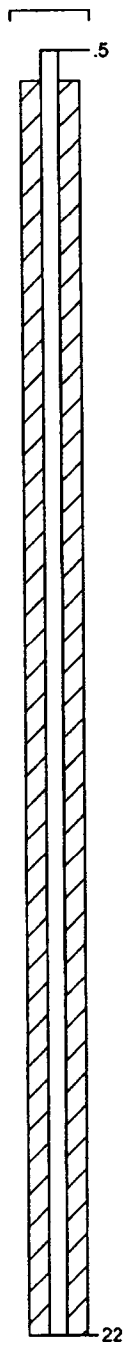
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), very fine to medium grained sand, subangular to subrounded.					
5	Becomes moderate yellowish brown (10YR 5/4).	SM				
10	SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to coarse grained, subrounded to rounded, loose, damp, no odor.	SP			16 22 30	0.6
15	SILTY SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained, subrounded to rounded, loose, damp, no odor.	SM			9 10 12	0.0
20	Becomes dark yellowish brown (10YR 4/2), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, no odor.				11 12 12	0.3

Well: MW-7



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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LOG OF WELL MW-7

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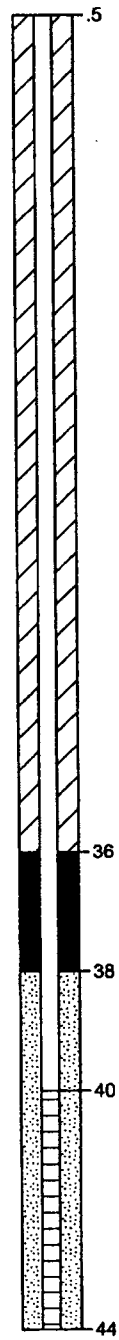
Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
22	Becomes poorly to moderately graded, very fine to medium grained, subangular to rounded.	SM			13 14 15	0.0
27	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to rounded, dense, damp, no odor.	SC			31 50 for 5"	1.4
32	SANDY CLAY, mottled moderate yellowish brown (10YR 5/4)/dusky yellowish green (5GY 4/2), very fine to medium grained, subangular to rounded, slightly plastic, stiff, damp, no odor.					
	SILTY CLAY with SAND, dark yellowish brown (10YR 4/2), moderately graded, very fine to medium grained, subrounded, slightly to largely plastic, soft, damp, no odor.	CL			12 22 24	351
37	SILTY SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subrounded to rounded, loose, damp, slight odor.	SM			14 18 18	3,029
42						

Well: MW-7



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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APEX ENVIROTECH, INC.

LOG OF WELL MW-7

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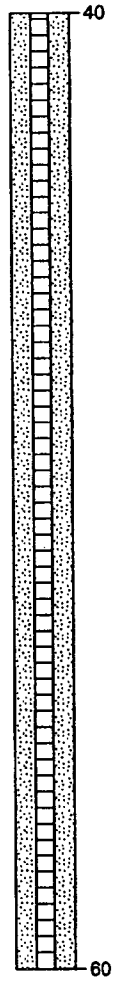
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
44	Becomes very fine to coarse grained, moderate odor.	SM			15 15 16	1,099
49	CLAY, moderate yellowish brown (10YR 5/4), highly plastic, soft, damp, no odor.				13 14 14	17.2
54		CL			12 14 14	10.8
59	SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to rounded, moist to wet, no odor.	SP			12 15 22	2.8
64						

Well: MW-7



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-8

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

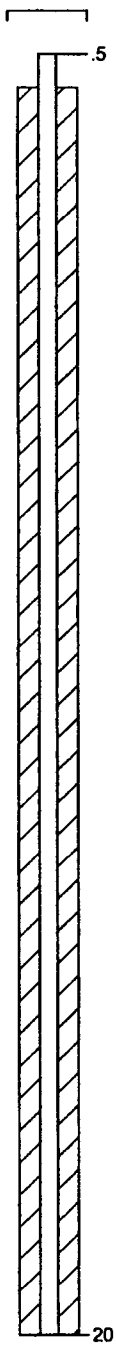
Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), moderately graded, very fine to medium grained, subrounded, loose, damp, no odor.					
	Becomes cemented, moderate yellowish brown (10YR 5/4).					
5	Becomes subangular to subrounded, no cementation.	SM			50 for 5"	0.0
10	SAND, moderate yellowish brown (10YR 5/4), well graded, fine to very coarse grained, subangular to subrounded, loose, damp, no odor.				19 20 22	0.0
	GRAVELLY SAND (quartzose gravel clasts), moderate yellowish brown (10YR 5/4), well graded, fine to very coarse grained sand, very fine to medium grained gravel, subangular to subrounded sand, subangular to rounded gravel, loose, damp, no odor.	SW				
15	SANDY CLAY, moderate yellowish brown (10YR 5/4), very fine to medium grained, subrounded, largely plastic, soft, damp, no odor.	CL			10 10 11	0.0
20						

Well: MW-8



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 39.5 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 39.5 ft to 59.5 ft

FILTER PACK
Material : #3 Sand- 37.5 ft to 59.5 ft

ANNULUS SEAL
Material : Bentonite- 35.5 ft to 37.5 ft

GROUT
Material : Type II-V cement- 1.0 ft to 35.5 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-8

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441 Robertson Boulevard
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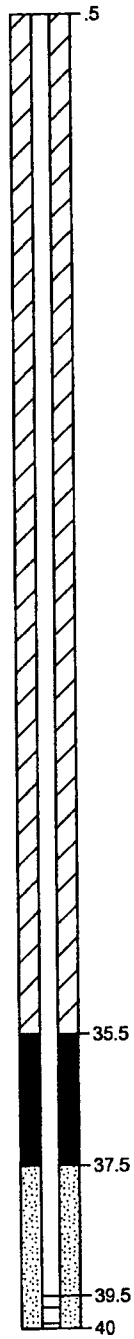
Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
20	CLAYEY SILT with SAND, dark yellowish brown (10YR 4/2), subangular to subrounded, loose to moderately dense, damp, no odor. SILT with SAND, dark yellowish brown (10YR 4/2), very fine to medium grained, subrounded, loose, damp, no odor.	ML			15 18 20	0.0
25	SAND with GRAVEL, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained sand, very fine grained gravel, subangular to subrounded sand, subangular gravel, loose, damp, no odor.	SW			16 18 21	0.0
30	CLAYEY SAND, mottled moderate yellowish brown (10YR 5/4)/dusky yellowish green (5GY 5/2), very fine to medium grained, subangular to subrounded, dense, damp, no odor.	SC			18 18 20	0.7
35	CLAYEY SILT, dark yellowish brown (10YR 4/2), moderately dense, damp, slight odor. SAND with CLAY, dark yellowish brown (10YR 4/2), well graded, very fine to coarse grained, subangular to subrounded, moderately dense, damp, moderate odor.	ML / SW			8 9 11	60.2
40	Becomes moderate to strong odor.					

Well: MW-8



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 39.5 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 39.5 ft to 59.5 ft

FILTER PACK
Material : #3 Sand- 37.5 ft to 59.5 ft

ANNULUS SEAL
Material : Bentonite- 35.5 ft to 37.5 ft

GROUT
Material : Type II-V cement- 1.0 ft to 35.5 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-8

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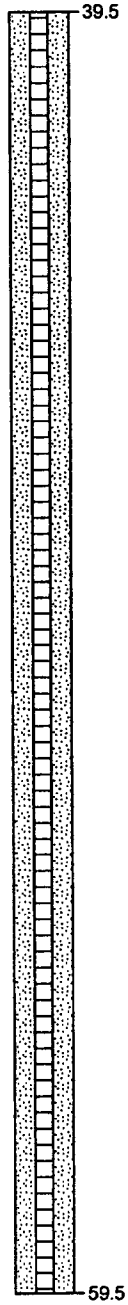
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Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
40		SW			10 11 11	1,561
45	CLAYEY SILT with SAND, dark yellowish brown (10YR 4/2), very fine to medium grained, subangular to subrounded, moderately dense, damp, no odor.	ML			16 18 18	178
50	CLAY, moderate yellowish brown (10YR 5/4), largely plastic, moderately stiff, damp, no odor.	CL			14 15 15	36.8
55					18 22 50 for 5"	0.0
60						

Well: MW-8



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 39.5 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 39.5 ft to 59.5 ft

FILTER PACK
Material : #3 Sand- 37.5 ft to 59.5 ft

ANNULUS SEAL
Material : Bentonite- 35.5 ft to 37.5 ft

GROUT
Material : Type II-V cement- 1.0 ft to 35.5 ft

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APEX ENVIROTECH, INC.

LOG OF WELL VW-1

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

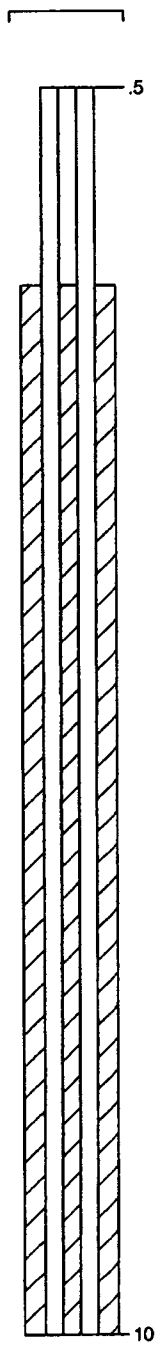
Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 43
Method	: Hollow-Stem Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subrounded, loose, damp, no odor.	SP				
5						
10						

Well1: VW-1
Well2: VW-1



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-1

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441 Robertson Boulevard
Chowchilla, CA

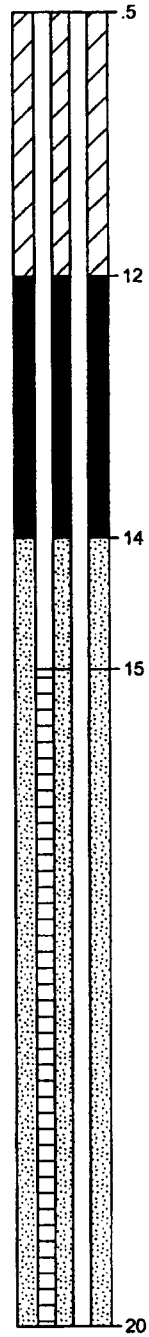
Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 43
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
10	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, no odor.	SM			10 10 12	0.0
	SAND with SILT, moderate yellowish brown (10YR 5/4), well graded, very fine to coarse grained, subangular to subrounded, loose, damp, no odor.	SW			17 18 20 23	
15	SILTY SAND with CLAY, moderate yellowish brown (10YR), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, no odor.	SM			17 22 23 25	0.0
	SILTY GRAVELLY SAND, moderate yellowish brown (10YR 5/4), moderately dense, damp, no odor.	ML			12 14 15 16	0.0
20						

Well1: VW-1
Well2: VW-1



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-1

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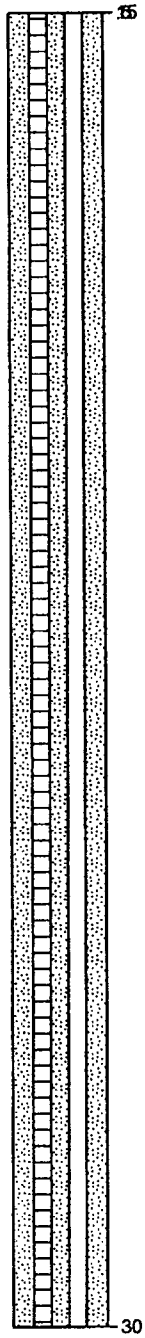
Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 43
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-1
Well2: VW-1

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
20	CLAYEY SILT, moderate yellowish brown (10YR 5/4), loose to moderately dense, damp, no odor.	ML			8 10 10 12	0.0
	SILT/SILTY SAND, moderate yellowish brown (10YR 5/4)/grayish olive (10Y 4/2), very fine to fine grained, moderately dense, damp, no odor.	ML/SM				
	SAND, grayish olive (10Y 4/2), moderately to well graded, very fine to coarse grained, subangular to subrounded, loose, damp, no odor to slight odor. Becomes light olive gray (5Y 5/2), well graded, slight odor.				8 12 15 19	0.0
25	Becomes moderately to well graded.	SW			14 15 18 22	0.0
	SAND with trace GRAVEL, light olive gray (5Y 5/2), well graded, fine to very coarse grained sand, very fine grained gravel, subangular to subrounded sand, rounded gravel, loose, damp, slight odor.				13 15 17 18	4.0
	CLAYEY SAND, dark yellowish brown (10YR 4/2), well graded, very fine to coarse grained, subangular to subrounded, dense, damp, slight odor.	SC			32 34 50 for 4"	10.1
30						



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-1

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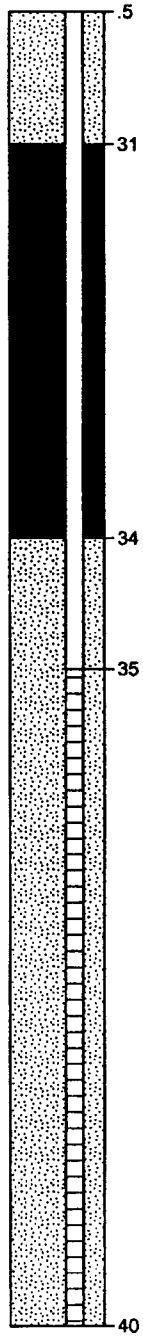
Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 43
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
30	Becomes mottled moderate yellowish brown (10YR 5/4) and dusky yellowish green (5GY 5/2), moderately graded, very fine to medium grained.	SC			30 33 50 for 5"	14.1
	CLAYEY SAND, moderately to well graded, very fine to medium grained, subangular to subrounded, dense, damp, slight odor.	SC			32 45 50 for 5"	242
	SANDY CLAY, moderate yellowish brown (10YR 5/4).	CL				
35	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately to well graded, very fine to coarse grained, subangular to subrounded, moderately dense to dense, damp, moderate odor.	SC			15 17 17 18	2,019
	SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, moderate odor. Becomes CLAYEY SILT.	ML				
	CLAYEY SILT, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, moderate odor.	SM			13 14 14 16	3,437
	SILTY SAND, moderate yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to rounded, loose to moderately dense, damp, moderate odor.	SM			18 19 20 20	2,774
40						

Well1: VW-1
Well2: VW-1



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-1

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Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/10/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 43
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
40	Becomes dark yellowish brown (10YR 4/2), subangular.	SM			14 15 18 18	1,733
	SILTY CLAY, dark yellowish brown (10YR 4/2), largely plastic, soft to moderately stiff, damp, moderate odor.	CL			9 12 14 16	1,177
45						
50						

Well1: VW-1
Well2: VW-1

35
45

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-2

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441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/13/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-2
Well2: VW-2

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to rounded, loose, damp, no odor.	SM				
10	Becomes moderate yellowish brown (10YR 5/4), subrounded to rounded, slight odor.				5 18 19	565

.5

12

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-2

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Project # AQU58.001

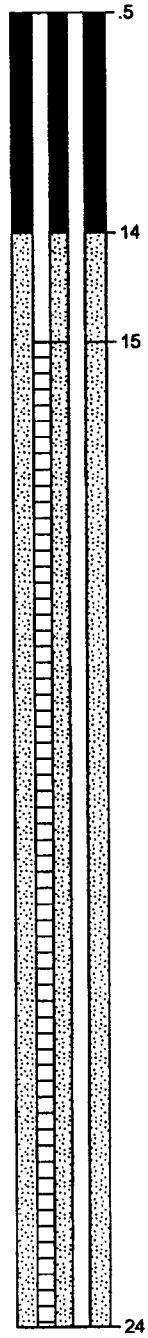
Date Completed	: 4/13/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	Blow Count	PID
12	Becomes dark yellowish brown (10YR 4/2), moderately to well graded, very fine to very coarse grained, subrounded, moderately dense.	SM	12 14 14 15	5.9
	SAND with CLAY with trace GRAVEL, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained sand, very fine to fine grained gravel, subangular to rounded sand, subrounded			
17	gravel, moderately dense, damp, slight odor. SILTY SAND with CLAY, moderately yellowish brown (10YR 5/4), poorly to moderately graded, loose to moderately dense, damp, moderate odor.		15 22 24 25	4,400
	SILTY SAND becoming SILT @ 19.5', moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, moderate to strong odor.	SM/ML	14 10 10 12	4,553
22	SILTY SAND, moderate yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/2), poorly graded, very fine to fine grained, subrounded to rounded, loose to moderately dense, damp, moderate to strong odor.	SM	9 10 15 15	4,387
	SILT, dark yellowish brown (10YR 4/2), moderately dense, damp, moderate to strong odor.	ML	9 9 15 13	3,816

Well1: VW-2
Well2: VW-2



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-2

APEX ENVIROTECH, INC.

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Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/13/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Well1: VW-2
Well2: VW-2

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
24	Becomes poorly graded, very fine to medium grained, subrounded to rounded, strong odor.	ML			14 15 20 22	3,784
	SILTY SAND, dark yellowish brown (10YR 4/2), poorly graded, very fine to medium grained, subrounded to rounded, moderately dense, damp, strong odor.	SM			42 50 for 5"	3,674
	SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained, subangular to rounded, loose, damp, moderate odor.	SW				
29	CLAYEY SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to coarse grained, subangular to rounded, dense, damp, slight to moderate odor. Becomes subangular to subrounded, slight odor.	SC			42 50 for 5"	582
	CLAYEY SAND with trace GRAVEL, mottled dark yellowish brown (10YR 4/2)/moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained sand, very fine to fine grained gravel, angular to rounded sand, subrounded to rounded gravel, very dense.				18 20 22 33	1,903
	SANDY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, stiff, damp, slight odor.				30 31 38 41	3,889
34	SILTY CLAY, moderate yellowish brown (10YR 5/4), largely plastic, soft, damp, slight odor.	CL			15 15 20 22	2,56

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

30
31
34
35
36

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APEX ENVIROTECH, INC.

LOG OF WELL VW-2

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/13/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-2
Well2: VW-2

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
36		CL				
	CLAYEY SILT, moderate yellowish brown (10YR 5/4), moderately dense to dense, damp, slight odor.	ML				
	SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, moderate odor.				5 7 9 9	1,332
	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subrounded to rounded, moderately dense, damp, moderate to strong odor.	SM			10 12 12 13	1,234
41	CLAYEY SILT with SAND, moderate yellowish brown (10YR 5/4).	ML			9 9 10 13	650
	CLAYEY SILT, dark yellowish brown (10YR 4/2), moderately dense to dense, damp, moderate odor.					
	SILTY CLAY, dark yellowish brown (10YR 4/2), largely plastic, soft, damp, moderate odor.	CL			9 9 10 12	2,253
46						

35

45

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-3

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Project # AQU58.001

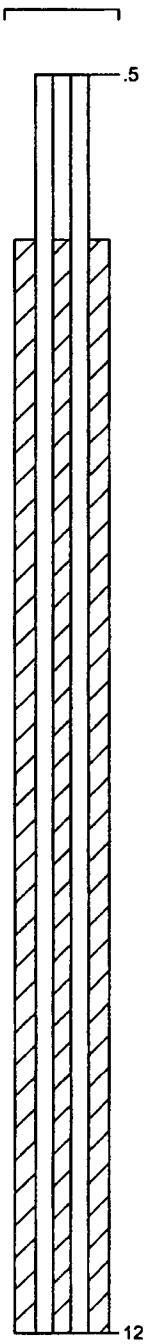
Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND/SAND, dark yellowish brown (10YR 4/2), moderately graded, very fine to coarse grained, subangular to subrounded, loose, damp, no odor.	SM/SP				
10	SILTY SAND, moderate yellowish brown (10YR 5/4) becoming grayish olive (10Y 4/2), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, moderate odor.	SM			4 9 13	848

Well1: VW-3
Well2: VW-3



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-3

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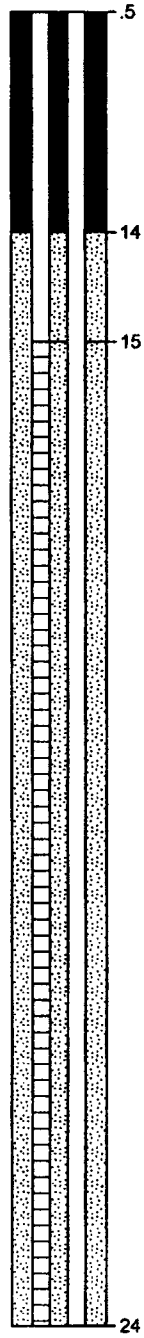
Project # AQU58.001

Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	Sample	Blow Count	PID
12	Becomes mottled dark yellowish brown (10YR 4/2)/moderate yellowish brown (10YR 5/4), moderately dense to dense, moderate to strong odor.			12 18 25 32	3,583
17	Becomes moderate yellowish brown (10YR 5/4), subrounded, moderately dense, strong odor.	SM		12 15 17 17	3,590
	19 Becomes poorly graded, very fine to fine grained, subrounded to rounded, moderate odor.			15 16 18 20	2,949
22				12 12 16 20	1,933
				12 14 17 18	2,092

Well1: VW-3
Well2: VW-3



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-3

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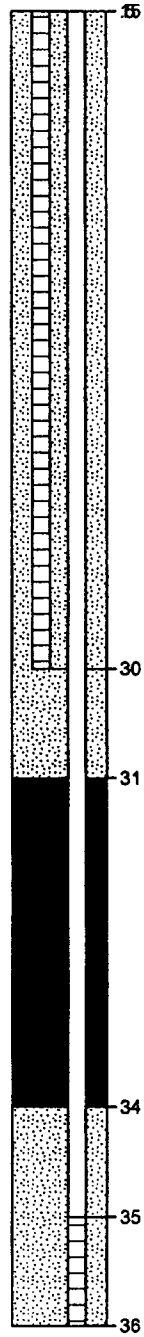
Project # AQU58.001

Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
24	Becomes loose.	SM			17 18 22 28	1,562
	SAND, light olive gray (5Y 5/2), moderately to well graded, very fine to coarse grained, subangular to rounded, loose, damp, moderate to strong odor. Becomes light olive gray (5Y 5/2), fine to very coarse grained, subangular to subrounded, moderate odor.	SW			10 10 28 50 for 5"	1,433
29	SAND with trace GRAVEL, light olive gray (5Y 5/2), well graded, fine to very coarse grained sand, very fine to fine grained gravel, subangular to subrounded sand, angular to subrounded gravel, coarsening downwards, loose, damp, moderate odor.				12 14 15 50 for 5"	2,960
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subrounded, dense, damp, moderate to strong odor.	SC				
	SANDY CLAY, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to subrounded, slightly plastic, moderately stiff to stiff, damp, moderate to strong odor.				30 44 48 50 for 5"	3,314
		CL			22 24 42 49	2,833
34	Becomes stiff, moderate odor.				12 28 42 48	3,153
	CLAY, moderate yellowish brown (10YR 5/4), highly plastic, soft, damp, moderate odor.					

Well1: VW-3
Well2: VW-3



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-3

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Well1: VW-3
Well2: VW-3

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
36		CL				
	SANDY CLAY, slightly plastic, moderately stiff, damp, strong odor.	SC			6 9 12 15	1,387
	CLAYEY SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, very strong odor.	ML			16 16 16 18	858
41	SANDY CLAY, mottled moderate yellowish brown (10YR 5/4)/grayish olive (10Y 4/2), largely plastic, very soft, damp, very strong odor.	SC			12 13 14 16	2,471
	CLAYEY SILT, dark yellowish brown (10YR 4/2), moderately dense, moist, strong odor.	ML			13 14 20 23	1,889
46						

35

48

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-3

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-3
Well2: VW-3

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
48	CLAY, moderate yellowish brown (10YR 5/4), mostly plastic, soft, damp, slight odor.	ML			14 15 15 17	268
	Becomes mottled moderate yellowish brown (10YR 5/4)/very pale orange (10YR 8/2), largely plastic, very soft, damp to moist, slight odor.					
53	SILTY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, very soft, damp, slight odor.	CL			16 17 19	36.4
58						

35
50

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-3

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/11/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 70
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-3
Well2: VW-3

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
60	SAND, dark yellowish brown (10YR 4/2), poorly graded, very fine to medium grained, subrounded, moist to wet, slight odor.	SP			25 50 for 5"	148
65	No recovery.				14 15 48	-
70	SAND, light olive gtray (5Y 5/2), well graded, very fine to very coarse grained, angular to subrounded, loose, wet to saturated, no odor.	SW			9 9 9	58

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-50'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-50'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-4

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

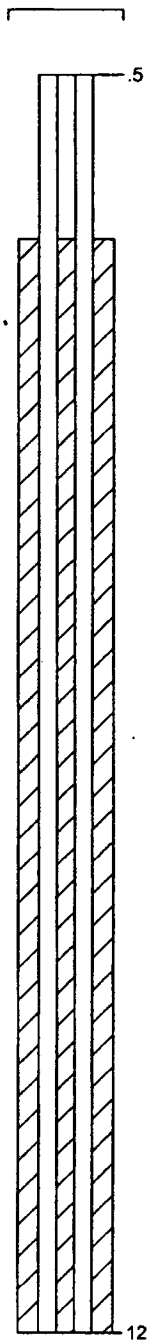
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SM				
10	SAND with SILT and trace GRAVEL, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained sand, very fine grained gravel, subangular to subrounded sand, rounded gravel, loose, damp, slight odor.	SW			16 17 20	0.4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-4

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

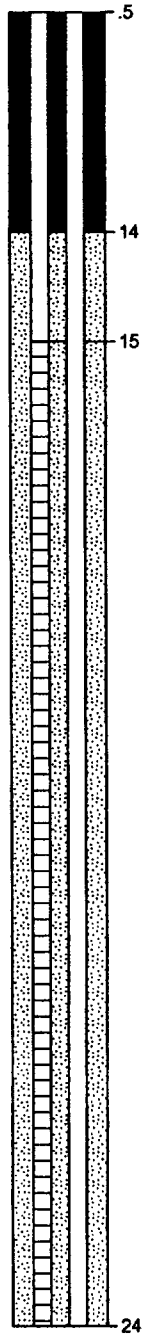
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
12		SW			24 24 25 27	1.2
	SANDY CLAY, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to subrounded, slightly plastic, moderately stiff, damp, no odor.	CL				
17	CLAYEY SAND/SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, no odor.	SC/SM			15 16 16 18	4.4
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subangular to subrounded, slightly plastic, very soft, damp, no odor.	SC			26 28 28 30	0.1
	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, no odor.					
	Becomes rounded, loose to moderately dense.	SM			12 14 14 16	0.0
22					12 13 14 16	0.1

Well1: VW-4
Well2: VW-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-4

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Chowchilla, CA

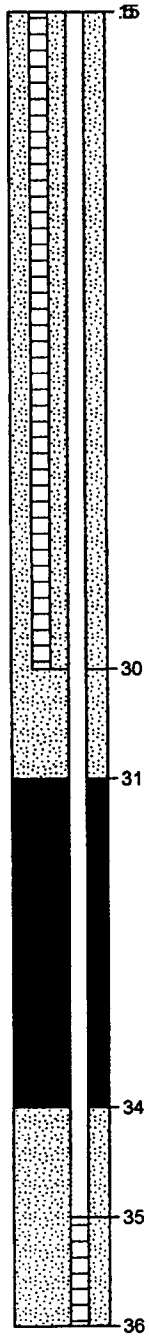
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
24		SM				
	SAND, moderate yellowish brown (10YR 5/4), well graded, fine to very coarse grained, subangular to rounded, loose, damp, no odor.	SW			10 11 11 12	0.0
	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subrounded to rounded, loose, damp, no odor.	SM				
	GRAVELLY SAND, light olive gray (5Y 5/2), well graded, fine to very coarse grained sand, very fine to fine grained gravel, angualr to rounded sand, subrounded to rounded gravel, loose, damp, no odor.	SW			26 34 50 for 5"	0.0
	└Becomes very fine to very coarse grained sand and gravel, angular to rounded sand, subrounded to rounded gravel, dry to damp.					
29					17 17 18 19	28.1
	CLAYEY SAND, mottled dark yellowish brown (10YR 4/2)/dusky yellowish green (5GY 5/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, dense, damp, slight odor.	SC				
	Becomes garyish olive (10Y 4/2), moderately graded.				11 17 18 18	48.3
	SANDY CLAY, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subangular to subrounded, slightly plastic, hard, damp, no odor.	CL				
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to coarse grained, subrounded, dense to very dense, damp, slight odor.	SC			5 28 32 38	260
34						
	SANDY CLAY, moderate yellowish brown (10YR 5/4), largely plastic, moderately stiff, damp, slight odor.	CL				
	└SILTY CLAY, moderate yellowish brown (10YR 5/4), slightly to largely plastic, soft, damp, slight odor.				14 15 18 24	1,519

Well1: VW-4
Well2: VW-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-4

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-4
Well2: VW-4

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
36		CL			9 10 13 13	3,317
	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, moderate to strong odor.				6 10 10 12	2,630
41	SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, moderate to strong odor.	SM			6 10 18 19	1,790
	SILTY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to coarse grained, subangular to subrounded, loose, moist, moderate odor.					
	Becomes SILTY SAND with CLAY.				10 12 13 15	2,945
	SANDY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, damp, moderate odor.	CL				
46						

35
45

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-5

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

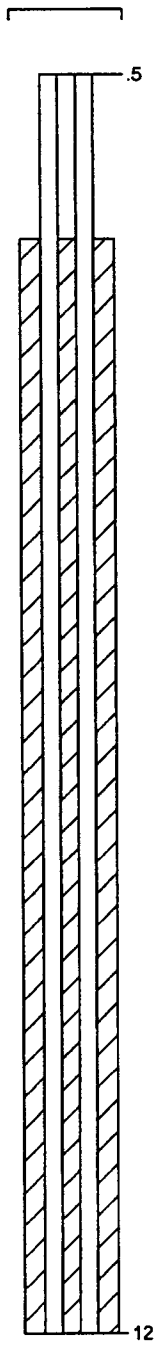
Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to rounded, loose, damp, no odor.	SM				
10	SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), poorly graded, very fine to medium grained, subrounded tor rounded, moderately dense, damp, no odor.				13 15 16	0.7

Well1: VW-5
Well2: VW-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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LOG OF WELL VW-5

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

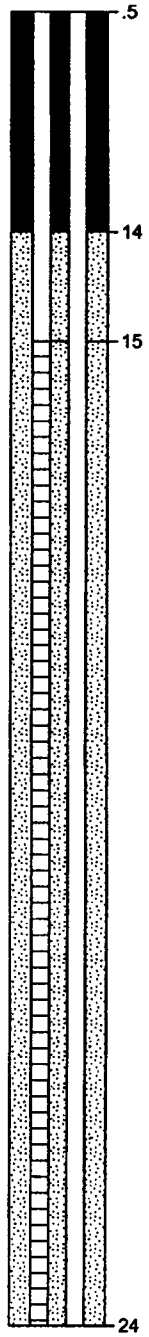
Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: —
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
12	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subrounded to rounded, moderately dense, damp, no odor.	SM			10 12 14 15	0.3
17	SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), poorly graded, very fine to fine grained, subrounded to rounded, moderately dense, damp.				12 14 16 18	0.0
	SANDY SILT, moderate yellowish brown (10YR 5/4), poorly graded, very fine grained, subrounded to rounded, moderately dense, damp, no odor.				10 10 10 12	0.0
	SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, no odor.	ML			6 10 10 12	0.0
22	SILTY SAND, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subrounded to rounded, loose, damp, no odor.	SM			10 12 12 15	0.2

Well1: VW-5
Well2: VW-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-5

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

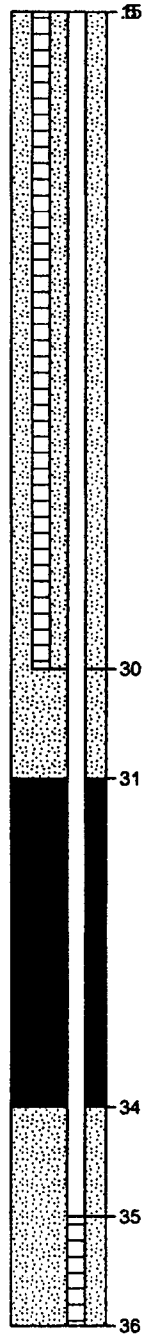
Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
24	Becomes olive gray (5Y 3/2), poorly to moderately graded, very fine to fine grained, slight odor.	SM			12 12 14 20	0.4
					14 17 20 20	3.6
	SAND, light olive gray (5Y 5/2), well graded, very fine to coarse grained, subangular to rounded, loose, damp, no odor.	SW				
	SANDY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, hard, damp, no odor.	CL				
29	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subrounded, dense, damp, slight odor.	SC			18 18 20 21	36.2
	SANDY CLAY, mottled dark yellowish brown (10YR 4/2)/moderate yellowish brown (10YR 5/4), very fine to very coarse grained, slightly plastic, stiff to hard, damp, slight odor.	CL			32 50 for 5"	170
34	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to coarse grained, subrounded, dense, damp, slight odor.	SC			22 28 32 40	872
	SILTY CLAY, dark yellowish brown (10YR 4/2), slightly plastic, vey soft, damp, moderate odor.	CL			10 10 12 13	3,598

Well1: VW-5
Well2: VW-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

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APEX ENVIROTECH, INC.

LOG OF WELL VW-5

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/12/07	Bore Hole Dia. (in)	: 10
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 45
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: ---
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Well1: VW-5
Well2: VW-5

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
36		CL				
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained, subangular to subrounded, moderately dense, damp, moderate odor.	SC			6 6 8 10	2,945
	CLAYEY SAND/SILTY SAND with CLAY, moderate yellowish brown (10YR 5/4), poorly to moderately graded, very fine to medium grained, subangular to rounded, moderately dense, damp, moderate to strong odor.	SC/SM				
	CLAYEY SILT with SAND, moderate yellowish brown (10YR 5/4), very fine to fine grained, moderately dense, damp, moderate odor.	ML			20 28 40 41	3,446
	SILTY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, very soft, damp, moderate odor.	CL				
	SILTY SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subrounded to rounded, loose, damp, moderate odor.	SM				
41	CLAYEY SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, moderate odor.	ML			9 12 13 13	3,117
	SILTY CLAY, moderate yellowish brown (10YR 5/4), slightly plastic, very soft, damp, moderate odor.					
	SILTY CLAY with SAND, moderate yellowish brown (10YR 5/4) todark yellowish brown (10YR 4/2), very fine to medium grained, subrounded to rounded, slightly plastic, very soft, damp, slight odor.	CL			14 15 16 17	3,405
46						

35

45

Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- : 0-15', 0-35'

WELL SCREEN
Material : 0.060 Slotted PVC- : 15-30', 35-45'

FILTER PACK
Material : Pea Gravel- : 14-31', 34-45'

ANNULUS SEAL
Material : Bentonite- : 12-14',31-34'

GROUT
Material : Type II-V cement- : 2-12'

11-20-2007 C:\Documents and Settings\dalston\Desktop\Drafting\AQU58.001\Soil Borings\vw-5.bor

LOG OF WELL MW-4

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

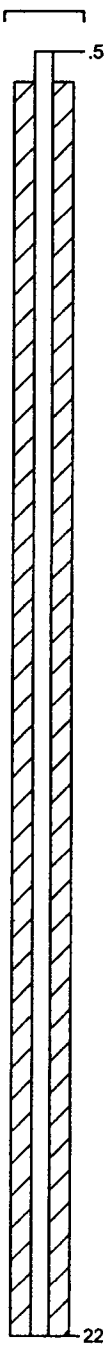
Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 42.7
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve

Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	SILTY SAND, dark yellowish brown (10YR 4/2), moderately graded, very fine to medium grained, loose, damp, no odor.					
5	Becomes moderate yellowish brown (10YR 5/4), subangular, dry.	SP			22 50 for 3"	0.0
10	SAND with CLAY, moderate yellowish brown (10YR 5/4), moderately graded, very fine to coarse grained, subangular to subrounded, moderately dense, damp, no odor.	SW			14 15 15	0.0
15	CLAYEY SAND, moderate yellowish brown (10YR 5/4), well graded, very fine to very coarse grained, angular to subangular, dense, damp, no odor.	SC			20 22 22	0.0
20	SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, no odor.	ML			12 14 16	0.0

Well: MW-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL MW-4

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

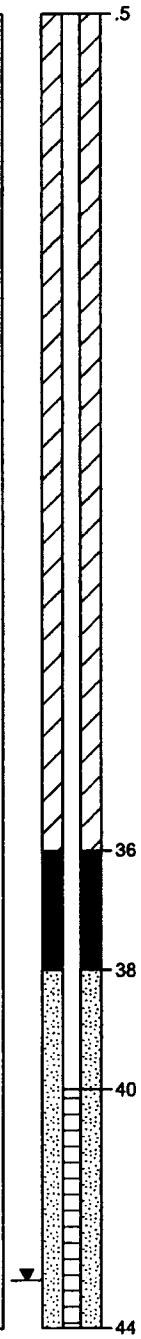
Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: —
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 42.7
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	Blow Count	PID
22		ML		
	SAND with trace GRAVEL, grayish olive (10Y 4/2), well graded, very fine to very coarse grained sand, very fine to fine grained gravel, angular to subrounded sand, rounded gravel, loose to moderately dense, damp, slight odor.	SW / SM	12 15 15	20.5
27	SILTY SAND, grayish olive (10Y 4/2), poorly graded, very fine to fine grained, subrounded to rounded, loose to moderately dense, damp, slight odor.	SW		
	SAND, grayish olive (10Y 4/2), well graded, very fine to very coarse grained, subangular to subrounded, loose, damp, slight odor.		20 22 23	134
32	CLAYEY SAND with trace GRAVEL, moderate yellowish brown (10YR 5/4), moderately graded, very fine to medium grained sand, very fine grained gravel, subangular sand, rounded gravel, moderately dense to dense, damp, slight odor.	SC		
	SAND with CLAY, moderate yellowish brown (10YR 5/4) to moderate brown (5YR 4/4), moderately graded, very fine to medium grained, subrounded, moderately dense, damp, moderate odor.	SP	20 23 25	3,587
37	SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, moderate odor.	ML	15 18 20	3,204
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), very fine to medium grained, subrounded, moderately dense, damp, moderate odor.	SC		
42				

Well: MW-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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APEX ENVIROTECH, INC.

LOG OF WELL MW-4

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

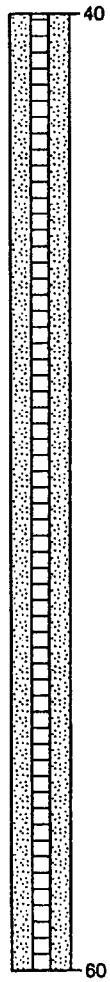
Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 8
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 60
Drilling Company	: Woodward Drilling, Inc.	Ini. Depth to Water (ft)	: ---
Driller	: David Van Steyn	Stc. Depth to Water (ft)	: 42.7
Method	: Hollow-Stem Auger		

Sample Legend: Sample location; Sleeve
Groundwater: Static; Initial

Depth in Feet	DESCRIPTION	USCS	Blow Count	PID
44		SC		
	CLAYEY SILT, moderate yellowish brown (10YR 5/4), moderately dense, damp, slight odor.	ML	19 20 24	248
	CLAYEY SAND, moderate yellowish brown (10YR 5/4), moderately graded, very fine to coarse grained, subangular to subrounded, moderately dense, damp, slight odor.	SC		
49				
	CLAY, mottled very pale orange (10YR 8/2)/moderate yellowish brown (10YR 5/4), mostly plastic, very soft, damp to moist, no odor.	CL	20 22 22	3.9
54				
	Becomes moderate yellowish brown (10YR 5/4), largely plastic, soft, damp.		24 26 28	7.4
	SAND, dark yellowish brown (10YR 4/2), poorly graded, loose, moist, slight odor.	SP		
59				
	Becomes very fine to medium grained, subrounded, wet, no odor.		4 5 11	
64				

Well: MW-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 2-in. Sched 40 PVC- 0.5 ft to 40 ft

WELL SCREEN
Material : 0.020 Slotted PVC- 40 ft to 60 ft

FILTER PACK
Material : #3 Sand- 38 ft to 60 ft

ANNULUS SEAL
Material : Bentonite- 36 ft to 38 ft

GROUT
Material : Type II-V cement- 1.0 ft to 36 ft

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL SG-1

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 4
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: —
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: —
Method	: Hand Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Asphalt.					
	Gravel backfill.					
3	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
6						

Well: SG-1



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 1/4" Polyurethene Tubing- 0.25 ft to 4 ft

WELL SCREEN
Material : 1" 0.020 Slotted PVC- 4 ft to 4.5 ft

FILTER PACK
Material : #3 Sand- 3 ft to 5 ft

ANNULUS SEAL
Material : Bentonite- 0.5 ft to 3 ft

GROUT
Material : N/A

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL SG-2

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 4
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: ---
Method	: Hand Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Concrete.					
1	Gravel backfill.					
2						
3	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
4						
5						
6						



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 1/4" Polyurethene Tubing- 0.25 ft to 4 ft

WELL SCREEN
Material : 1" 0.020 Slotted PVC- 4 ft to 4.5 ft

FILTER PACK
Material : #3 Sand- 3 ft to 5 ft

ANNULUS SEAL
Material : Bentonite- 0.5 ft to 3 ft

GROUT
Material : N/A

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GEOTRACKER ID#:T0603900129

LOG OF WELL SG-3

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 4
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: ---
Method	: Hand Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Concrete.					
2	Gravel backfill.					
3	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
5						
6						

Well: SG-3



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 1/4" Polyurethene Tubing- 0.25 ft to 4 ft

WELL SCREEN
Material : 1" 0.020 Slotted PVC- 4 ft to 4.5 ft

FILTER PACK
Material : #3 Sand- 3 ft to 5 ft

ANNULUS SEAL
Material : Bentonite- 0.5 ft to 3 ft

GROUT
Material : N/A

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LOG OF WELL SG-4

(Page 1 of 1)

APEX ENVIROTECH, INC.

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 4/9/07	Bore Hole Dia. (in)	: 4
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: ---
Method	: Hand Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Asphalt.					
	Gravel backfill.					
3	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
5						
6						

Well: SG-4



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 1/4" Polyurethene Tubing- 0.25 ft to 4 ft

WELL SCREEN
Material : 1" 0.020 Slotted PVC- 4 ft to 4.5 ft

FILTER PACK
Material : #3 Sand- 3 ft to 5 ft

ANNULUS SEAL
Material : Bentonite- 0.5 ft to 3 ft

GROUT
Material : N/A

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GEOTRACKER ID#:T0603900129

APEX ENVIROTECH, INC.

LOG OF WELL SG-5

Former Aquino Exxon
441 Robertson Boulevard
Chowchilla, CA

Project # AQU58.001

Date Completed	: 9/11/07	Bore Hole Dia. (in)	: 4
Geologist	: Trevor Hartwell	Depth Drilled (ft)	: 5
Drilling Company	: Woodward Drilling Company	Ini. Depth to Water (ft)	: ---
Driller	: Jeff McWilliams	Stc. Depth to Water (ft)	: ---
Method	: Hand Auger		

Sample Legend
- Sample location
- Sleeve

Groundwater
- Static
- Initial

Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Sample	Blow Count	PID
0	Asphalt.					
	Gravel backfill.					
3	SAND, dark yellowish brown (10YR 4/2), poorly to moderately graded, very fine to medium grained, subangular to subrounded, loose, damp, no odor.	SP				
5						
6						

Well: SG-5



Well Construction Information

WELL CONSTRUCTION

WELL CASING
Material : 1/4" Polyurethene Tubing- 0.25 ft to 4 ft

WELL SCREEN
Material : 1" 0.020 Slotted PVC- 4 ft to 4.5 ft

FILTER PACK
Material : #3 Sand- 3 ft to 5 ft

ANNULUS SEAL
Material : Bentonite- 0.5 ft to 3 ft

GROUT
Material : N/A

11-20-2007 C:\Documents and Settings\dalston\Desktop\Drafting\AQU58.001\Soil Borings\sg-5.bor

GEOTRACKER ID#:T0603900129

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	5				
	10				
	15	8.2	15 20	SP	SAND (SP): Tan, moderately dense, unconsolidated, fine-grained, very moist, no apparent gasoline odor.
	20	200	14 16	ML	SILT (ML): Brown, moderately compact, stiff, sandy/clayey, very moist, moderate extracted gasoline odor.
	25	166	18 22	SP	SAND (SP): Brown, moderately dense, unconsolidated, fine to medium grained, slightly moist, extracted gasoline odor.
	30	86.9	17 20	SW	SAND (SW): Brown, moderately dense, loosely consolidated, silty in part, moderately moist, very slight extracted gasoline odor.

AEC *ADVANCED ENVIRONMENTAL CONCEPTS*
P.O. BOX 40672 BAKERSFIELD, CA 93384

WELL/BORING LOG

PROJECT Hollister Trucking LOCATION 128 Chowchilla Avenue, Chowchilla, California

WELL/BORING NO. CB-1 SURFACE ELEVATION _____ WELLHEAD ELEVATION N/A

DATE DRILLED 02/16/96 LOGGED BY J. Buck REVIEWED BY J. DUNWOODY

DRILLING COMPANY S B & S Drilling DRILLER _____ METHOD HOLLOW STEM AUGER

BORE HOLE DIAMETER 8 INCH TOTAL DEPTH 45' DEPTH TO WATER: INITIAL _____ STATIC N/A

CASING TYPE _____ DIAMETER _____ SCHEDULE N/A INTERVAL N/A TO N/A

SCREEN TYPE _____ DIAMETER _____ SLOT SIZE N/A INTERVAL N/A TO N/A

FILTER PACK TYPE _____ INTERVAL N/A TO N/A

SURFACE SEAL TYPE _____ INTERVAL N/A TO N/A

NOTES _____

GEOTRACKER ID#:T0603900024

WELL DETAIL	DEPTH	PID (ppm)	SAMPLE ID INTERVAL BLOWCOUNT	U.S.C.S. LOG	LITHOLOGIC DESCRIPTION
	35	12.4	20 25	SM	SAND (SM): Brown, moderately dense, loosely consolidated, fine-grained, silty, moderately moist, no apparent gasoline odor.
	40	-0-	19 26	SW	SAND (SW): Tan, moderately dense, unconsolidated, medium to coarse-grained, moderately moist, no apparent gasoline odor.
	45	-0-	14 18	SW	SAND (SW): Tan, moderately dense, unconsolidated, medium to coarse-grained, moderately moist, no apparent gasoline odor.
	50				
	55				
	60				
	65				

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			1				
			2				
			3				
			4				
		14	5				SAND (SP): Brown, moderately dense, loosely consolidated, fine grained slightly moist, no apparent hydrocarbon odor.
	-0-	20					
			6				
			7				
			8				
			9				
		8	10				SAND (SP): Brown, slightly dense, unconsolidated, fine to medium grained, slightly moist, no apparent hydrocarbon odor.
	-0-	12					
			11				
			12				
			13				
			14				
		12	15				SILT (ML): Gray-tan, moderately compact, plastic, clayey in part, moderately mooist, no apparent hydrocarbon odor.
	1.3	17					
			16				
			17				
			18				
			19				
		5	20				SILT (ML): Gray-brown, moderately compact, sandy in part, moderately moist, no apparent hydrocarbon odor.
	3.3	12					
			21				
			22				
			23				
			24				
		18	25				SAND (SW): Brown, moderately dense, loosely consolidated, silty matrix, medium to very coarse grained, slightly moist.
	1.8	21					

Water Encountered: 57 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Blvd.
Chowchilla, CA

Log of Boring

GEOTRACKER ID#: T0603900024

PLATE
MW-1
Page 1 of 3

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			26				
			27				
			28				
			29				
		22	30				SAND (SW): Brown, moderately to very dense, loosely consolidated, medium to coarse grained, pebbly, silty matrix, moderately moist, no apparent hydrocarbon odor.
	-0-	50					
			31				
			32				
			33				
			34				
		22	35				SAND (SW): Moderately to very dense, loosely consolidated, medium to coarse grained, silty matrix, moderately moist, no apparent hydrocarbon odor.
	-0-	40					
			36				
			37				
			38				
			39				
		14	40				SAND (SP): Buff-white, moderately dense, unconsolidated, medium grained, occasional coarse grained slightly moist, moderate hydrocarbon odor.
	672	22					
			41				
			42				
			43				
			44				
		20	45				SAND (SP): Brown, moderately dense, unconsolidated to loosely consolidated, fine grained, silty matrix, slightly moist, very slight hydrocarbon odor.
	109	25					
			46				
			47				
			48				
			49				
		21	50				SAND (SP): Brown, moderately dense, unconsolidated, medium grained, slightly silty matrix, slightly moist, no apparent hydrocarbon odor
	84	25					

Water Encountered: 57 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Blvd.
Chowchilla, CA

PLATE
MW-1
Page 2 of 3

Log of Boring

FROG TRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			51				
			52				
			53				
			54				
		19	55				SAND (SW): Gray-buff, moderately dense, loosely consolidated coarse grained, silty matrix, moderately to very moist, no apparent hydrocarbon odor.
	21.8	30					
			56				
			57				
			58				SAND (SP): Multi-colored, moderately dense, unconsolidated, coarse-grained, saturated, no apparent hydrocarbon odor.
			59				
			60				
			61				
			62				
			63				
			64				
			65				
			66				
			67				
			68				
			69				
			70				
			71				
			72				
			73				
			74				
			75				

Water Encountered: 57 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Blvd.
Chowchilla, CA

PLATE
MW-1
Page 3 of 3

Log of Boring

GEOTRACKER ID#:T0603900024

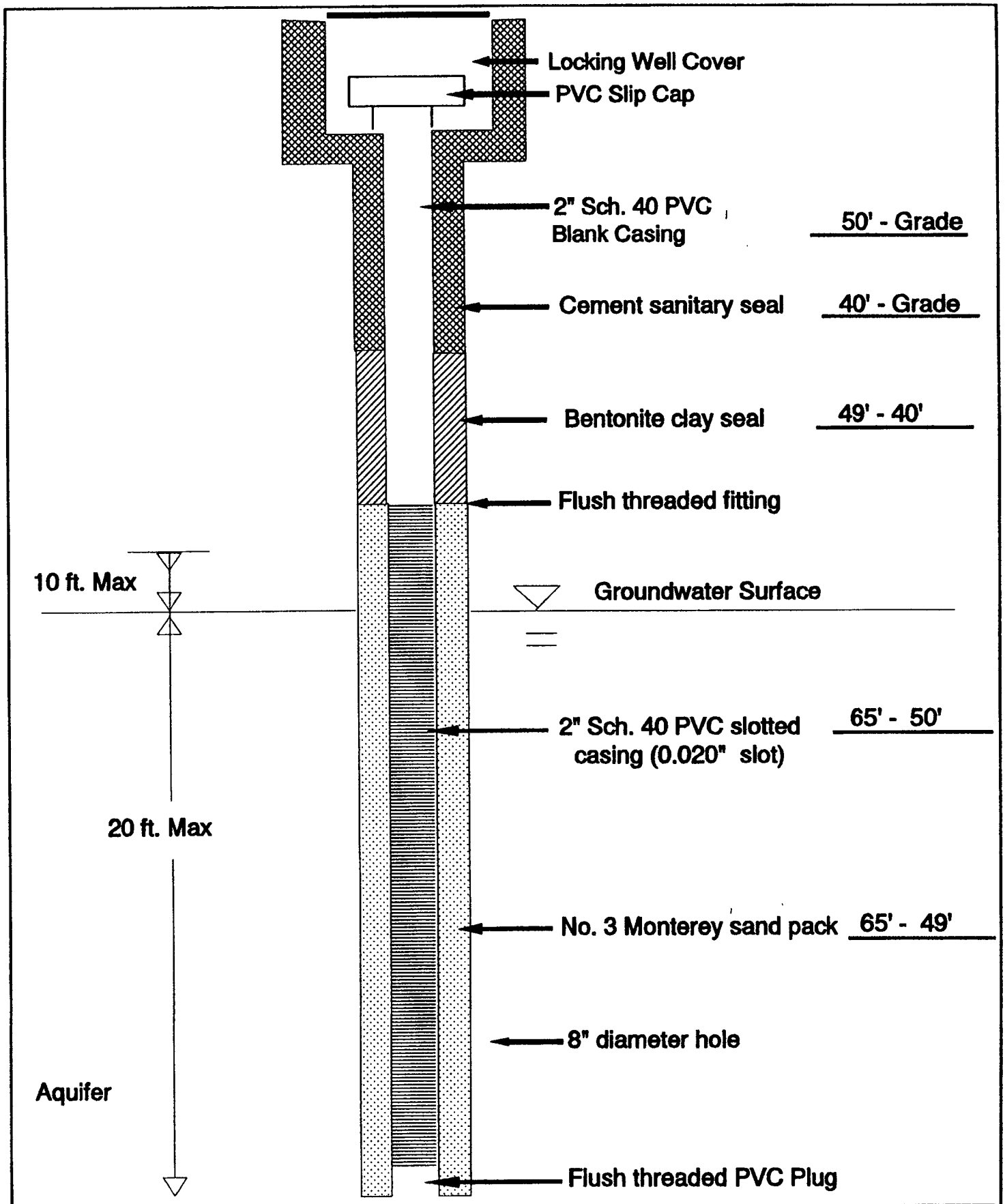


Diagram of Groundwater Monitoring Well
Hollister Trucking
Chowchilla, California

MW-1
07/26/93

GEOTRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			1				
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9				
		10	10				SAND (SP): Brown, moderately dense, unconsolidated, fine to medium - grained, moderately moist, no apparent hydrocarbon odor.
	-0-	13					
			11				
			12				
			13				
			14				
			15				
			16				
			17				
			18				
			19				
		18	20				SAND (SM): Brown, moderately dense, loosley, consolidated, fine-grained, silty matrix, slightly moist, no apparent hydrocarbon odor.
	-0-	31					
			21				
			22				
			23				
			24				
			25				

Water Encountered: 54 feet
Total Depth: 61 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" Inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
MW-2
Page 1 of 3

Log of Boring

GEOTRACKER ID#: T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			26				
			27				
			28				
			29				
		16	30				SAND (GC): White, multi-colored, moderately dense, unconsolidated, coarse-grained to gravels, no silt, slightly moist, no apparent hydrocarbon odor.
	-0-	19					
			31				
			32				
			33				
			34				
			35				
			36				
			37				
			38				
			39				SAND (GC): White, multi-colored, moderately dense, unconsolidated, coarse grained to gravelly, no silt, moderately moist, strong degraded gasoline odor.
		14	40				
	2500	17					
			41				
			42				
			43				
			44				
			45				
			46				
			47				
			48				SAND (SP): Brown, moderately dense, loosely consoldiated, fine-grained, common medium grained, silty matrix, moderately moist, very slight hydrocarbon odor.
			49				
		18	50				
	148	23					

Water Encountered: 54 feet
Total Depth: 61 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
MW-2
Page 2 of 3

Log of Boring

FOOTPACKET DF:T06139002A

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			51				
			52				
			53				
			54				
		10	55	N			SAND (SP): Multi-colored, moderately dense, unconsolidated, medium to coarse grained, saturated, no apparent hydrocarbon odor.
		8		R			
			56				
			57				
			58				
			59				
			60				
			61				
			62				
			63				
			64				
			65				
			66				
			67				
			68				
			69				
			70				
			71				
			72				
			73				
			74				
			75				

Water Encountered: 54 feet
Total Depth: 61 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

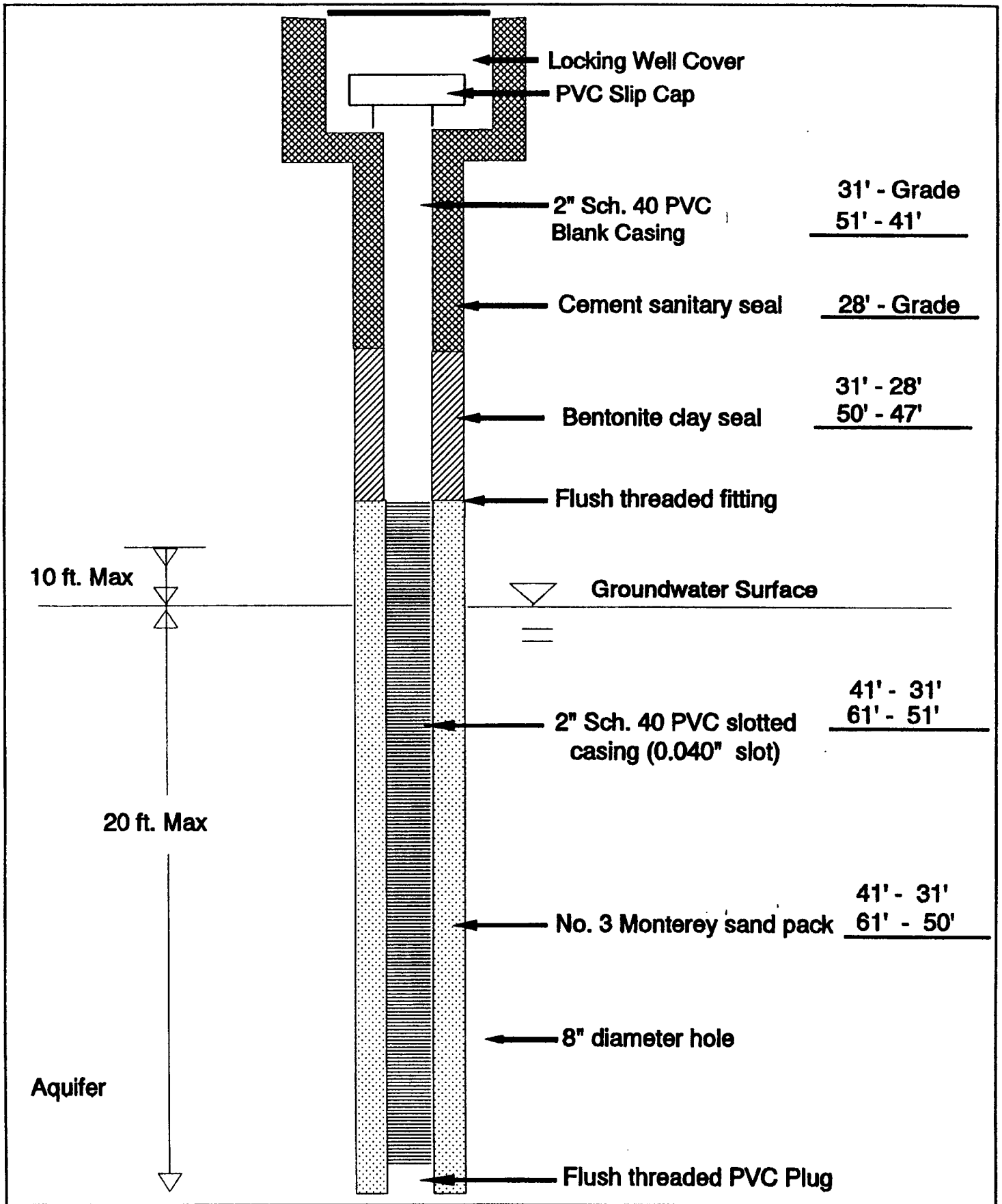
Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
MW-2
Page 3 of 3

Log of Boring

GEOTRACKER ID#: T0609900824



GEOTRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			1				
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9				
		4	10				SAND (SP): Brown, moderately dense, unconsolidated, fine to medium grained, silty in part, slightly moist, no apparent hydrocarbon odor
	-0-	10					
			11				
			12				
			13				
			14				
			15				
			16				
			17				
			18				
			19				
		18	20				SAND (SP): Brown, moderately dense, loosely consolidated, medium to coarse grained, silty matrix, slightly moist, no apparent hydrocarbon odor.
	-0-	22					
			21				
			22				
			23				
			24				
			25				

Water Encountered: 56 feet
Total Depth: 65 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
MW-3
Page 1 of 3

Log of Boring

GEOTRACKER ID#T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			26				
			27				
			28				
			29				
		11	30				SAND (GC): Multi-colored, moderately dense, unconsolidated, coarsse-grained to gravel, no silt, moderately moist, no apparent hydrocarbon odor.
	0.8	11					
			31				
			32				
			33				
			34				
			35				
			36				
			37				
			38				
			39				SAND (SP): White-tan, moderately dense, unconsolidated, fine to medium grained, slightly silty, moderately moist, very slight gasoline odor.
		10	40				
	32.4	22					
			41				
			42				
			43				
			44				
			45				
			46				
			47				SAND (GC): Brown, moderately dense, unconsolidated, coarse grained to gravelly, slightly silty, moderatel moist, slight hydrocarbon odor.
			48				
			49				
		18	50				
	82.8	30					

Water Encountered: 56 feet
Total Depth: 65 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

Log of Boring

PLATE
MW-3

GEOTRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			51				
			52				
			53				
			54				
		14					
	2.2	19	55				SILT (ML): Brown, moderately compact stiff, clayey in part, some sand, moderately moist, no apparent hydrocarbon odor.
			56				
			57				
			58				
			59				
			60				
			61				
			62				
			63				
			64				
			65				
			66				
			67				
			68				
			69				
			70				
			71				
			72				
			73				
			74				
			75				

Water Encountered: 56 feet
Total Depth: 65 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
MW-3

Log Of Boring

GEOTRACKER ID#:T0603900024

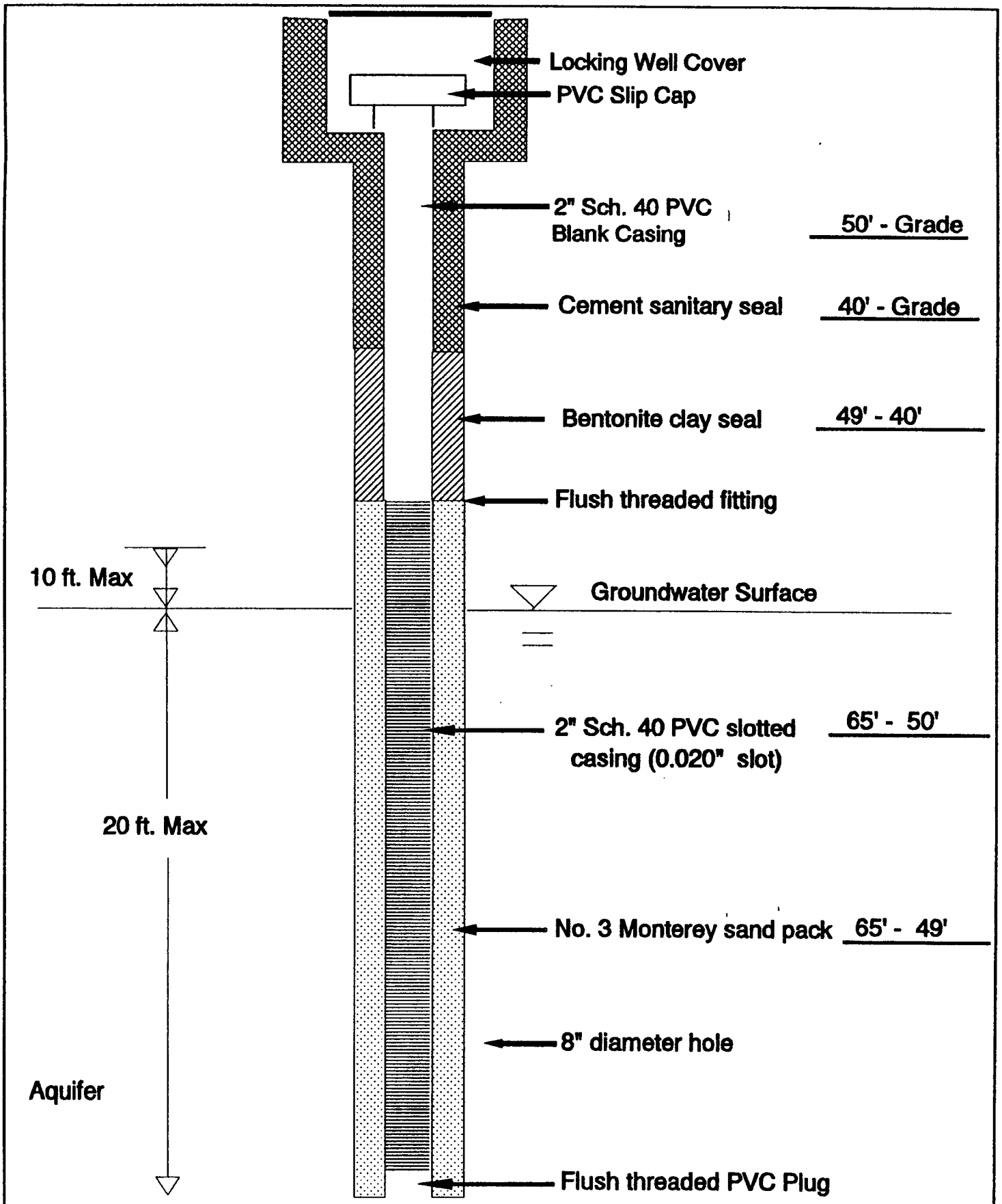


Diagram of Groundwater Monitoring Well
Hollister Trucking
Chowchilla, California

MW-3
07/27/93

GEOTRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			1				
			2				
			3				
			4				
	-0-		5	N	S		SAND (SM): Brown, moderately compact loosely consolidated, sandy in part moderately moist, no apparent hydrocarbon odor.
			6				
			7				
			8				
			9				
	1840		10	N	S		
			11				
			12				
			13				
			14				
	2500		15	N	S		SILT (ML): Brown, moderately compact clayey in part, plastic, moderately moist, strong gasoline odor.
			16				
			17				
			18				
			19				
			20	N	S		
			21				
			22				
			23				SAND (SM): Brown, moderately dense, loosely consolidated, fine-grained, silty matrix, moderately moist, strong gasoline odor.
			24				
		15	25				
	> 2500	25					

Water Encountered: _____ feet
Total Depth: 45' feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" Inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

GEOTRACKER ID#: T0603900024

PLATE
VE-2
Page 1 of

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			26				
			27				
			28				
			29				
			30	N			
				S			
			31				
			32				
			33				
			34				SAND (SP): Brown, moderately dense, loosely to moderately unconsolidate fine-grained, silty matrix, slightly moist, strong gasoline odor.
		15	35				
	2500	31					
			36				
			37				
			38				
			39				
			40				
			41				
			42				
			43				
			44				SAND (SM): Brown, moderately dense, moderately consolidated, fine-grained, silty matrix, slightly moist, very slight hydrocarbon odor
		15	45				
	122	19					
			46				
			47				
			48				
			49				
			50				

Water Encountered: _____ feet
Total Depth: 45 feet
Date Drilled: 07/27/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" Inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

Log of Boring

GEOTRACKER ID#: T0603900024

PLATE
VE-2
Page 2 of 2

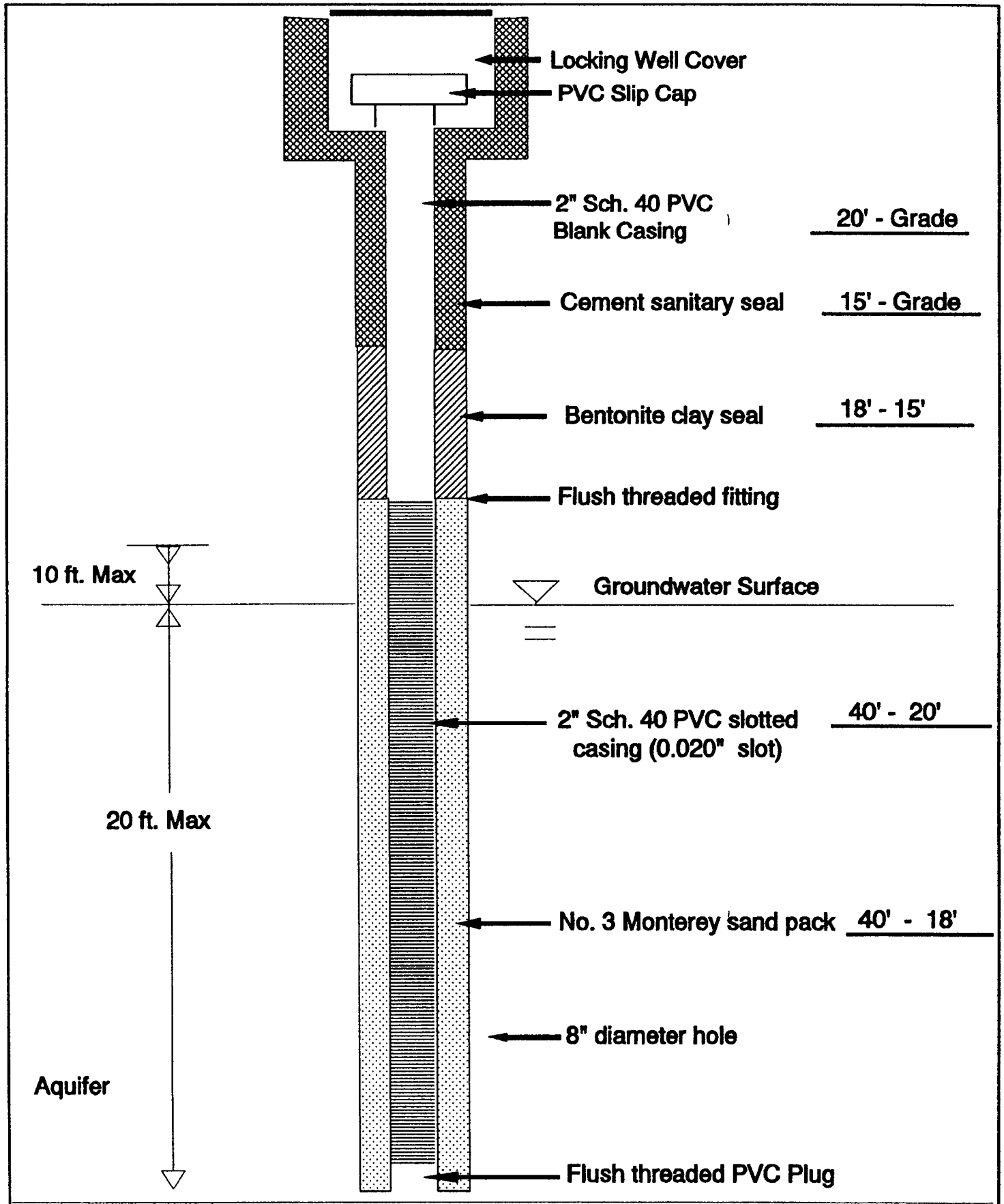


Diagram of Groundwater Monitoring Well
Hollister Trucking
Chowchilla, California

VE-2
07/27/93

GEOTRACKER ID#:T0603900024

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			1				
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9				
		8	10				SAND (SP): Brown, moderately dense, loosely to unconsolidated, medium grained, slightly moist, no apparen hydrocarbon odor.
	-0-	14	11				
			12				
			13				
			14				
			15				
			16				
			17				
			18				
			19				
		10	20				SAND (SM): Brown, moderately dense, loosely consolidated, silty matrix fine-grained, moderately moist, no apparent hydrocarbon odor.
	1.1	12	21				
			22				
			23				
			24				
			25				

Water Encountered: 54 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4100 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Road
Chowchilla, CA

PLATE
VE-3
Page 1 of 3

Log of Boring

GEOTRACKER ID#T0600900024

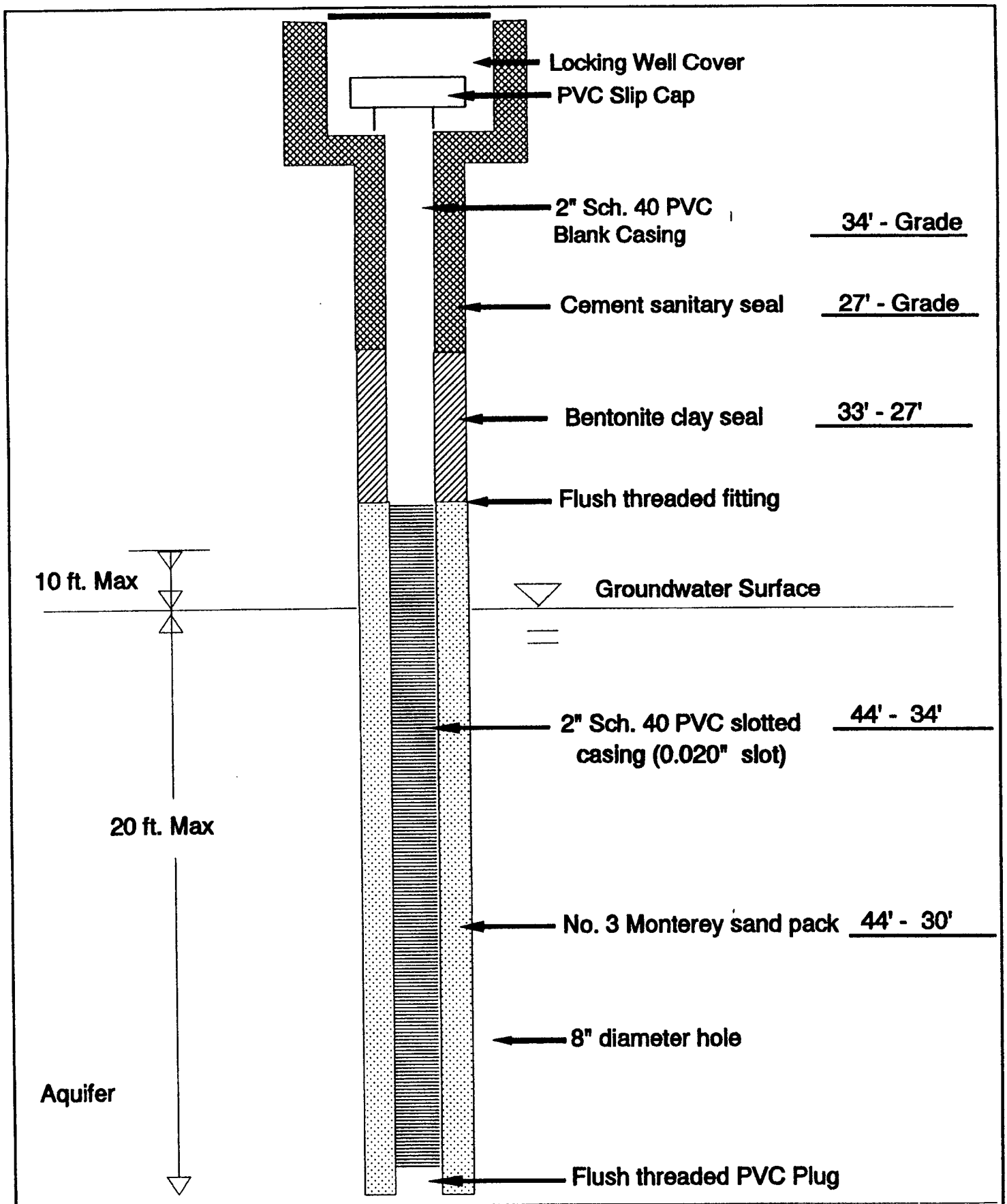


Diagram of Groundwater Monitoring Well
Hollister Trucking
Chowchilla, California

VE-3
07/26/93

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			26				
			27				
			28				
			29				
		17					
	-0-	24	30				SAND (GC): Brown, moderately dense, unconsolidated, medium to coarse grained, common well rounded with colored gravel, moderately moist, no apparent hydrocarbon odor.
			31				
			32				
			33				
			34				
			35				
			36				
			37				
			38				
			39				
		19					
	2172	25	40				SAND (SW): Buff-tan, moderately dense unconsolidated, medium to coarse grained, slightly moist, strong gasoline odor.
			41				
			42				
			43				
			44				
			45				
			46				
			47				
			48				SAND (SM): Brown, moderately dense, loosely consolidated, fine-grained, occasional medium grained, slightly moist, no apparent hydrocarbon odor
			49				
		17					
	38	24	50				

Water Encountered: 54 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Blvd.
Chowchilla, CA

GEOTRACKER ID#: T0603900024

Log of Boring

PLATE
VE-3
Page 2 of 3

WELL CONSTRUCTION	PID	Blow Count	Depth (feet)	Sample Interval	Sample Number	USCS Design	SOIL DESCRIPTION
			51				
			52				
			53				
			54				
		18					
	-0-	22	55				SAND (SP): Multi-colored, moderately dense, unconsolidated, medium to coarse grained, saturated, no apparent hydrocarbon odor.
			56				
			57				
			58				
			59				
			60				
			61				
			62				
			63				
			64				
			65				
			66				
			67				
			68				
			69				
			70				
			71				
			72				
			73				
			74				
			75				

Water Encountered: 54 feet
Total Depth: 65 feet
Date Drilled: 07/26/93

Logged By: J. Buck
Supervised By: J. Dunwoody
Diameter of Boring: 8" inches

Advanced Environmental Concepts, Inc.
4400 Ashe Road #206
Bakersfield, California 93313

NAME: Hollister Trucking
SITE: 128 Chowchilla Blvd.
Chowchilla, CA

Log of Boring

GEOTRACKER ID#:T0603900024

Log of Test Boring: MW-6

Project No: 17-07007
Project: Jiffy Food Mart
Location: Chowchilla, Ca
Depth to Water (Initial):

Figure: A-2
Logged By: A.G.
Client: Dan Martin
Depth to Water (Completion): 57.7'

Depth	Symbol	Description	Sample Number	OVM	Blows/Foot	Volatile Organic Concentration (Parts Per Million (ppm))	Notes
0		Ground Surface					
		Silty Sand (SM) Brown; moist; fine grained					
5		***Sandy Clay (CL)*** Brown; moist					
10			1	0	22		
15		***Clayey Sand (SC)*** Brown; moist; fine grained					
20			2	0	25		
25							
30		***Silty Sand (SM)*** Light brown; moist; medium to coarse grained	3	0	28		
35							

Volatile Organic Concentration — Parts Per Million (ppm): 50, 150, 250

Drill Method: HS Auger/Acker Soil Max
Drill Date: 03/24/09
Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net

GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe
Sheet: 1 of 2
Engineer: A. Saboor Rahim

Log of Test Boring: MW-6

Project No: 17-07007
Project: Jiffy Food Mart
Location: Chowchilla, Ca
Depth to Water (Initial):

Figure: A-2
Logged By: A.G.
Client: Dan Martin
Depth to Water (Completion): 57.7'

SUBSURFACE PROFILE			SAMPLE			Volatile Organic Concentration Parts Per Million (ppm)	
Depth	Symbol	Description	Number	OVM	Blows/Foot	50 150 250	Notes
		Sandy Clay (CL) Brown; moist					
40			4	0	36		
45							
50			5	0	13		
55		***Clayey Sand (SC)*** Brown; moist; fine to medium grained	6	0	27		
60			7	0	28		
65							
70		End of Borehole					

Drill Method: HS Auger/Acker Soil Max
Drill Date: 03/24/09
Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net

GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe
Sheet: 2 of 2
Engineer: A. Saboor Rahim

Log of Test Boring: MW-7

Project No: 17-07007
Project: Jiffy Food Mart
Location: Chowchilla, Ca
Depth to Water (Initial):

Figure: A-3
Logged By: A.G.
Client: Dan Martin
Depth to Water (Completion): 57.5'

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description	Number	OVM	Blows/Foot	Volatile Organic Concentration Parts Per Million (ppm) 50 150 250	Notes
0		Ground Surface					
		Silty Sand (SM) Brown; moist; fine to medium grained					
5		***Sandy Clay (CL)*** Brown; moist					
10		***Silty Sand (SM)*** Light brown; moist; medium to coarse grained	1	0	20		
15		***Sandy Clay (CL)*** Brown; moist					
20			2	0	19		
25							
30		***Silty Sand (SM)*** Brown; moist; coarse grained	3	0	31		
35							

Drill Method: HS Auger/Acker Soil Max
Drill Date: 03/24/09
Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net
GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe
Sheet: 1 of 2
Engineer: A. Saboor Rahim

Log of Test Boring: MW-7

Project No: 17-07007
Project: Jiffy Food Mart
Location: Chowchilla, Ca
Depth to Water (Initial):

Figure: A-3
Logged By: A.G.
Client: Dan Martin
Depth to Water (Completion): 57.5'

Depth	Symbol	Description	Sample Number	OVM	Blows/Foot	Volatile Organic Concentration (Parts Per Million (ppm))	Notes
40		***Clayey Sand (SC)*** Light brown; moist; coarse grained	4	0	40		
45		***Silty Clay (CL)*** Brown; moist	5	0	31		
50							
55		Grades contain traces of fine grained sand ▽	6	0	13		
60		Grades wet	7	0	17		
65							
70		End of Borehole					

Volatile Organic Concentration — Parts Per Million (ppm): 50, 150, 250

Drill Method: HS Auger/Acker Soil Max
Drill Date: 03/24/09
Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net

GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe
Sheet: 2 of 2
Engineer: A. Saboor Rahim

Log of Test Boring: MW-8

Project No: 17-07007
Project: Jiffy Food Mart
Location: Chowchilla, Ca
Depth to Water (Initial):

Figure: A-4
Logged By: A.G.
Client: Dan Martin
Depth to Water (Completion): 57.6'

SUBSURFACE PROFILE			SAMPLE			Volatile Organic Concentration Parts Per Million (ppm)	
Depth	Symbol	Description	Number	OVM	Blows/Foot	50 150 250	Notes
0		Ground Surface					
		Clayey Sand (SC) Brown; moist; fine grained					
5		Contains 2" of pea gravel					
10			1	0	28		
15		***Sandy Clay (CL)*** Brown; moist					
20		***Silty Sand (SM)*** Brown; moist; fine grained	2	0	27		
		Grades contain traces of clay					
25							
30		***Clayey Sand (SC)*** Brown; moist; coarse grained	3	6	28		
35							

Drill Method: HS Auger/Acker Soil Max
Drill Date: 03/25/09
Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net
GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe
Sheet: 1 of 2
Engineer: A. Saboor Rahim

Log of Test Boring: MW-8

Project No: 17-07007

Project: Jiffy Food Mart

Location: Chowchilla, Ca

Depth to Water (Initial):

Figure: A-4

Logged By: A.G.

Client: Dan Martin

Depth to Water (Completion): 57.6'

SUBSURFACE PROFILE			SAMPLE			Volatile Organic Concentration Parts Per Million (ppm)	
Depth	Symbol	Description	Number	OVM	Blows/Foot	50 150 250	Notes
		Clayey Sand (SC) Light brown; medium to coarse grained					
40			4	0	32		
45		***Sandy Clay (CL)*** Brown; moist					
50			5	0	48		
55		▽	6	0	36		
60		Grades wet	7	0	12		
65							
70		End of Borehole					

Drill Method: HS Auger/Acker Soil Max

Drill Date: 03/25/09

Hole Size: 8"

ASR Engineering, Inc.
3629 W. Gettysburg Ave.
Fresno, CA. 93722
phone: (559) 271-5260
fax: (559) 271-5267
e-mail: asrengineering@sbcglobal.net

GEOTRACKER ID#:T0603900095

Drilled by: Soilprobe

Sheet: 2 of 2

Engineer: A. Saboor Rahim

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-6

PROJECT NUMBER 99-19-05
PROJECT NAME S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY West-Hazmat
RIG TYPE & NUMBER CME-75, LAR
DRILLING METHOD Hollow-Stem Auger
WEATHER Sunny & Hot
FIELD PARTY
GEOLOGIST Wm. Sheehe
DATE BEGUN 6/20/00 DATE COMPLETED 6/20/00

FIELD BOOK NO
TOTAL DEPTH 41.5'
GROUND SURFACE ELEVATION
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								SAND; Imported (Engineered) Fill (SW), loose to medium dense, damp, light yellowish brown, no gasoline odor		
10.0	■	Ss	21					SAND, silty w/gravel (SM) medium dense to dense, damp, poorly sorted (even % Fine, medium sand & gravel), brown, gasoline odor at 8.5'. dark brown to black, strong gasoline odor at 10'		
15.0	■	Ss	29			■		increased silt content, some gray mottling, gasoline odor at 15'		
20.0	■	Ss	43			■		SAND, poorly graded (SM), dense, damp, Fine to medium, some gravel, trace of silt, light brown w/some reddish brown staining, no gasoline odor		
22.0								Boring continued		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-6

PROJECT NUMBER 98-19-05
PROJECT NAME S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY West-Hazmat
RIG TYPE & NUMBER: CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny & Hot
FIELD PARTY
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 6/20/01 DATE COMPLETED: 6/20/01

FIELD BOOK NO.
TOTAL DEPTH: 41.5
GROUND SURFACE ELEVATION
SHEET: 2 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
22.0										
23.0								SAND; Silty (SM), medium dense to dense, damp, fine, well sorted, light brown w/reddish brown staining, occasional gypsum crystals, slight gasoline odor.		
24.0										
25.0		Ss	34					SAND; poorly graded (SP), medium dense to dense, damp, fine to medium with occasional coarse grains, trace of silt, poorly sorted, light brown, no gasoline odor		
26.0										
27.0										
28.0										
29.0										
30.0		Ss	31							
31.0										
32.0										
33.0								SILT; Sandy (SM) hard, moist, low plasticity, fine to medium sand w/some gravel, light reddish brown, no gasoline odor.		
34.0										
35.0		Ss	26					lt yellowish brown, very stiff, no gasoline odor		
36.0										
37.0										
38.0										
39.0										
40.0		Ss	33					no gravel, reddish brown, hard, no gasoline odor		
41.0										
42.0								Bottom of Boring GEOTRACKER ID#: T0603900072		

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-7

PROJECT NUMBER 98-19-05
PROJECT NAME S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY West-Hazmat
RIG TYPE & NUMBER CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER Sunny & Hot
FIELD PARTY
GEOLOGIST Wm. Sheehe
DATE BEGUN: 6/20/00 DATE COMPLETED 6/20/00

FIELD BOOK NO
TOTAL DEPTH 41.5'
GROUND SURFACE ELEVATION:
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0										
1.0								SAND; Imported (Engineered) Fill (SW), loose to medium dense, damp, light yellowish brown, no gasoline odor to 8'		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0								SAND; silty w/gravel (SM) medium dense to dense, very moist, poorly sorted (even % fine, medium sand & gravel), brown, gasoline odor at 9'.		
9.0										
10.0	■	Ss	21			■		dark brown to black, gasoline odor at 10'		
11.0	■									
12.0										
13.0										
14.0										
15.0	■	Ss	29			■		decreased moisture to damp, increased silt content, some gray mottling, gasoline odor at 15'		
16.0	■									
17.0										
18.0										
19.0										
20.0	■	Ss	43			■				
21.0	■									
22.0								Boring continued		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-7

PROJECT NUMBER: 98-19-05
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: West-Hazmat
RIG TYPE & NUMBER: CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny & Hot
FIELD PARTY:
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 6/20/01 DATE COMPLETED: 6/20/01

FIELD BOOK NO:
TOTAL DEPTH: 41.5
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
22.0								SAND, silty w/gravel (SM) medium dense to dense, very moist, poorly sorted (even % fine, medium sand & gravel), brown, gasoline odor at 20'.		
23.0										
24.0								SAND, poorly graded (SM), medium dense to dense, damp, Fine to medium, some gravel, well sorted, trace of silt, light brown, no gasoline odor at 25'		
25.0		Ss	28							
26.0										
27.0										
28.0										
29.0										
30.0		Ss	30					dense, no gasoline odor at 30'		
31.0										
32.0										
33.0										
34.0										
35.0		Ss	34					dense, no gasoline odor at 35'		
36.0										
37.0										
38.0										
39.0										
40.0		Ss	37					dense, no gasoline odor at 40'		
41.0										
42.0								Bottom of Boring at 41.5'		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-8

PROJECT NUMBER: 99-19-05
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: West-Hazmat
RIG TYPE & NUMBER: CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny & Hot
FIELD PARTY:
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 6/20/00 DATE COMPLETED: 6/21/00

FIELD BOOK NO:
TOTAL DEPTH: 41.5'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								SAND, Imported (Engineered) Fill (SW), loose to medium dense, damp, light yellowish brown, no gasoline odor to 11'.		
10.0	■	Ss	20							
11.0								SAND, silty (SM) medium dense, moist, low plasticity, very fine sand, brown, no gasoline odor.		
15.0	■	Ss	29			■		trace of clay, no gasoline odor at 15'		
20.0	■	Ss	30			■		no gasoline odor at 20'		
22.0								Boring [illegible]		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-8

PROJECT NUMBER: 98-19-05
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: West-Hazmat
RIG TYPE & NUMBER: CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny & Hot
FIELD PARTY
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 6/20/01 DATE COMPLETED: 6/21/01

FIELD BOOK NO.:
TOTAL DEPTH: 41.5
GROUND SURFACE ELEVATION
SHEET 2 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(Ft)	00	00
Time	00	00
Date:	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
22.0										
23.0								SAND; Silty (SM), dense, moist, fine, trace of clay, well sorted, light brown w/reddish brown mottling, no gasoline odor		
24.0										
25.0		Ss	30					SAND; poorly graded (SP), dense to dense, damp, Fine to medium with occasional coarse grains to 0.25-inch dia., trace of silt, poorly sorted, light brown, no gasoline odor		
26.0										
27.0										
28.0										
29.0										
30.0		Ss	32							
31.0										
32.0								SILT, Sandy (SM) hard, moist, low plasticity, Fine sand w/some gravel, light reddish brown, no gasoline odor.		
33.0										
34.0										
35.0		Ss	33					no gasoline odor at 35'		
36.0										
37.0										
38.0										
39.0										
40.0		Ss	36					no gasoline odor at 40'		
41.0										
42.0								Bottom of Boring at 41.5'		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-9

PROJECT NUMBER: 99-19-05
PROJECT NAME S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY West-Hazmat
RIG TYPE & NUMBER: CME-75 LAR
DRILLING METHOD: Hollow-Stem Auger
WEATHER Sunny & Hot
FIELD PARTY
GEOLOGIST Wm. Sheehe
DATE BEGUN: 6/21/01 DATE COMPLETED: 6/21/01

FIELD BOOK NO.
TOTAL DEPTH: 41.5'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0										
1.0								SAND; Silty (SM), medium dense, moist, fine, well sorted, brown, no gasoline odor.		
2.0										
3.0										
4.0										
5.0	■	Ss	20							
6.0										
7.0										
8.0										
9.0										
10.0	■	Ss	28					SILT; Sandy (ML/SM) firm to hard, damp, low plasticity, very fine sand, lt. yellowish brown, no gasoline odor		
11.0										
12.0										
13.0										
14.0										
15.0	■	Ss	27			■				
16.0										
17.0										
18.0										
19.0								SAND, Silty (SM), medium dense, moist, fine, trace of clay, well sorted, brown, no gasoline odor		
20.0	■	Ss	31			■				
21.0										
22.0										

Boring **GEOTRACKER ID#:T0603900072**

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-9

PROJECT NUMBER: 98-19-05
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: West-Hazmat
RIG TYPE & NUMBER: CME-75
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny & Hot
FIELD PARTY
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 6/20/01 DATE COMPLETED: 6/21/01

FIELD BOOK NO.
TOTAL DEPTH: 41.5
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
22.0								SAND; Silty (SM), medium dense to dense, moist, fine, trace of clay, well sorted, light brown w/reddish brown staining, no gasoline odor		
23.0										
24.0										
25.0		Ss	31					SAND, poorly graded (SP), medium dense, damp, fine to medium with occasional coarse grains to 0.25-inch dia., trace of silt, poorly sorted, brown, no gasoline odor		
26.0										
27.0										
28.0										
29.0										
30.0		Ss	23							
31.0										
32.0								SAND, Silty (SM), medium dense to dense, moist, fine, trace of clay, well sorted, brown, no gasoline odor		
33.0										
34.0										
35.0		Ss	34					decreased silt content, no gasoline odor at 35'		
36.0										
37.0										
38.0										
39.0										
40.0		Ss	35					some medium sand, no gasoline odor at 40'		
41.0										
42.0								Bottom of Boring at 41.5'		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-1

PROJECT NUMBER 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: SB & S
RIG TYPE & NUMBER: Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY
GEOLOGIST Wm.Sheehe
DATE BEGUN 3/15/99 DATE COMPLETED 3/15/99

FIELD BOOK NO :
TOTAL DEPTH 32.5 at 25 degree angle
GROUND SURFACE ELEVATION
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								Asphaltic Concrete to 3"		
1.0								SAND; silty (SM) loose to medium dense, damp, some gravel, well sorted, brown, no gasoline odor		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0		Ss	0							
12.0										
13.0										
14.0										
15.0										
16.0		Ss	0							
17.0								SAND, poorly graded (SP) medium dense to dense, damp, fine to medium, some gravel, trace of silt, well sorted, light brown, no gasoline odor.		
18.0										
19.0								Boring continued		
20.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-1

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: SB & S
RIG TYPE & NUMBER: Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY:
GEOLOGIST: Wm.Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO:
TOTAL DEPTH: 32.5
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
20.0	■	Ss	0			■		SAND; poorly graded (SP) medium dense to dense, damp, fine, trace of silt, well sorted, light brown, no gasoline odor.		
21.0										
22.0										
23.0										
24.0										
25.0										
26.0										
27.0										
28.0										
29.0										
30.0	■	Ss	0			■				
31.0										
32.0										
33.0								Bottom of Boring at 32.5'		
34.0										
35.0										
36.0										
37.0										
38.0										
39.0										
40.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-2

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: SB & S
RIG TYPE & NUMBER: Bobcat
DRILLING METHOD: Strait-flight Auger
WEATHER: Partly Cloudy
FIELD PARTY:
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO
TOTAL DEPTH: 15.5
GROUND SURFACE ELEVATION
SHEET 1 OF 1

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								Portland Cement Concrete to 5"		
1.0								SAND; silty (SM) loose to medium dense, damp, some gravel, well sorted, brown, slight gasoline odor at 5'		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0	■		0			■				
11.0										
12.0										
13.0										
14.0										
15.0	■		0			■				
16.0								Bottom of Boring at 15.5'		
17.0										
18.0										
19.0										
20.0										
21.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-3

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: SB & S
RIG TYPE & NUMBER: Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY
GEOLOGIST: Wm.Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO.
TOTAL DEPTH: 31.5
GROUND SURFACE ELEVATION
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								Asphaltic Concrete to 3"		
1.0								SAND, silty (SM) loose to medium dense, damp, some gravel, well sorted, brown, no gasoline odor.		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0		Ss	28							
12.0										
13.0										
14.0										
15.0										
16.0		Ss	34					SAND, poorly graded (SP) medium dense to dense, damp, fine to medium, some gravel, trace of silt, well sorted, light brown, no gasoline odor		
17.0										
18.0										
19.0										
20.0								Boring continued		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-3

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION: 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY: SB & S
RIG TYPE & NUMBER: Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY:
GEOLOGIST: Wm. Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO:
TOTAL DEPTH: 31.5
GROUND SURFACE ELEVATION:
SHEET 2 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(Ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
20.0		Ss	49					SAND, poorly graded (SP) medium dense to dense, damp, Fine, trace of silt, well sorted, light brown, no gasoline odor		
21.0										
22.0										
23.0										
24.0										
25.0		Ss	46							
26.0										
27.0										
28.0										
29.0										
30.0		Ss	50+							
31.0										
32.0										
33.0								Bottom of Boring at 31.5'		
34.0										
35.0										
36.0										
37.0										
38.0										
39.0										
40.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-4

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY SB & S
RIG TYPE & NUMBER Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY:
GEOLOGIST: Wm.Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO.:
TOTAL DEPTH: 31.5
GROUND SURFACE ELEVATION:
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								Aspholtic Concrete to 3"		
1.0								SAND; silty (SM) loose to medium dense, damp, some gravel, well sorted, brown, no gasoline odor.		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0		Ss	26							
12.0										
13.0										
14.0										
15.0										
16.0		Ss	37					SAND, poorly graded (SP) medium dense to dense, damp, Fine to medium, some gravel, trace of silt, well sorted, light brown, no gasoline odor.		
17.0										
18.0										
19.0								Boring continued		
20.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-4

PROJECT NUMBER: 98-19-03
PROJECT NAME: S & K Mini Mart
LOCATION 1109 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY SB & S
RIG TYPE & NUMBER Mobile B-60
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Partly Cloudy
FIELD PARTY:
GEOLOGIST Wm. Sheehe
DATE BEGUN: 3/15/99 DATE COMPLETED: 3/15/99

FIELD BOOK NO.
TOTAL DEPTH: 31.5
GROUND SURFACE ELEVATION
SHEET: 2 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
20.0	■	Ss	26			■		SAND, poorly graded (SP) medium dense to dense, damp, Fine, trace of silt, well sorted, light brown, no gasoline odor.		
21.0										
22.0										
23.0										
24.0										
25.0	■	Ss	41			■				
26.0										
27.0										
28.0										
29.0										
30.0	■	Ss	48			■				
31.0										
32.0										
33.0								Bottom of Boring at 31.5'		
34.0										
35.0										
36.0										
37.0										
38.0										
39.0										
40.0										

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-5

PROJECT NUMBER 98-19-03
PROJECT NAME S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY SB & S
RIG TYPE & NUMBER Mobile B-60
DRILLING METHOD Hollow-Stem Auger
WEATHER Partly Cloudy
FIELD PARTY
GEOLOGIST Wm.Sheehe
DATE BEGUN 3/15/99 DATE COMPLETED 3/15/99

FIELD BOOK NO.:
TOTAL DEPTH: 31.5
GROUND SURFACE ELEVATION:
SHEET 1 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								Aspholtic Concrete to 3"		
1.0								SAND; silty (SM) loose to medium dense, damp, some gravel, well sorted, brown, no gasoline odor		
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0		Ss	29							
12.0										
13.0										
14.0										
15.0										
16.0		Ss	35					SAND; poorly graded (SP) medium dense to dense, damp, fine to medium, some gravel, trace of silt, well sorted, light brown, no gasoline odor		
17.0										
18.0										
19.0										
20.0								Boring continued		

GEOTRACKER ID#:T0603900072

FIELD BOREHOLE LOG

BOREHOLE NUMBER
B-5

PROJECT NUMBER 98-19-03
PROJECT NAME S & K Mini Mart
LOCATION 1104 W. Robertson Blvd., Chowchilla, CA.
DRILLING COMPANY SB & S
RIG TYPE & NUMBER Mobile B-60
DRILLING METHOD Hollow-Stem Auger
WEATHER Partly Cloudy
FIELD PARTY
GEOLOGIST Wm.Sheehe
DATE BEGUN 3/15/99 DATE COMPLETED 3/15/99

FIELD BOOK NO.
TOTAL DEPTH 31.5
GROUND SURFACE ELEVATION
SHEET 2 OF 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date	00	00

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
20.0										
21.0	■	Ss	24			■		SAND; poorly graded (SP) medium dense to dense, damp, fine, trace of silt, well sorted, light brown, no gasoline odor		
22.0										
23.0										
24.0										
25.0	■	Ss	45			■				
26.0										
27.0										
28.0										
29.0										
30.0	■	Ss	49			■				
31.0										
32.0										
33.0								Bottom of Boring at 31 5'		
34.0										
35.0										
36.0										
37.0										
38.0										
39.0										
40.0										

GEOTRACKER ID#:T0603900072

WATERWORK

WELL/BORING LOG

PROJECT CIRCLE K CHOWCHILLA LOCATION 1104 ROBERTSON BLVD, CHOWCHILLA PROJECT NO. 21106-1
WELL/BORING NO. CKCSB1 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 07/27/89 REVIEWED BY RUSSELL JUNCAL RG3864 LOGGED BY R. JUNCAL
DRILLING COMPANY ARTHUR DRILLING DRILLER MATT METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 6.0 IN DEPTH DRILLED 26.5 FT DEPTH TO WATER: INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT INTERVAL 0 FT TO 26.5 FT
NOTES ____

WELL DEPTH	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.G. LOG	SOIL DESCRIPTION
	0				0-3' ASPHALT
	2			SP	3'-2' GRVL SND (SP): FILL 15% HRD SUBRND GVL 3/4" MAX DIA, 85% FN-CRS SND, SUBANG, HRD, BRN, SM, NPD
					2-16' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPD
	4		SB1A 2		
			6		
	6		16		
	8			ML	
	10		SB1B 13		
			42		
	12		42		
	14		SB1C 5		
			7		
	16		10		16-21' PRLY GRDD SND (SP): FN-CRS, SUBRND, MED DNS, BRN, SM, NPD
	18			SP	
			SB1D 5		
	20		10		
			15		21-23' SNDY SLT (ML): A/A
	22			ML	
	24				23-26.5' PRLY GRDD SND (SP): A/A
			SB1E 8	SP	
	26		12		
			14		
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#:T0603900072

WATERWORK

WELL/BORING LOG

PROJECT CIRCLE K CHOWCHILLA LOCATION 1104 ROBERTSON BLVD, CHOWCHILLA PROJECT NO. 21106-1
WELL/BORING NO. CKCSB2 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 07/27/89 REVIEWED BY RUSSELL JUNCAL RG3864 LOGGED BY R. JUNCAL
DRILLING COMPANY ARTHUR DRILLING DRILLER MATT METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 6.0 IN DEPTH DRILLED 26.5 FT DEPTH TO WATER: INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT INTERVAL 0 FT TO 26.5 FT
NOTES ____

WELL DEPTH	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.G. LOG	SOIL DESCRIPTION
	0				0-3' ASPHALT
	2			ML	3'-5' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	4				
	6		SB2A 29 >50	CL	5-7' CLY (CC): HRD, SEMI CONSOLIDATED CLY - CLY STONE, BRN, DRY, NPO
	8				7-13' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	10		SB2B 4 14 22	ML	
	12				
	14		SB2C 11 18 19	CL	13-19' SLTY CLY (CL): MED PLST, MED TGHNSS, BRN, SM, NPO
	16				
	18				
	20		SB2D 5 6 11	SP	19-26.5' PRLY GRDD SND (SP): FN-CRS, SUBRND, MED DNS, BRN, SM, NPO
	22				
	24		AB2E 5 8 10		
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#:T0603900072

WATERWORK

WELL/BORING LOG

PROJECT CIRCLE K CHOWCHILLA LOCATION 1104 ROBERTSON BLVD, CHOWCHILLA PROJECT NO. 21106-1
WELL/BORING NO. CKCSB3 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 07/27/89 REVIEWED BY RUSSELL JUNCAL RG3864 LOGGED BY R. JUNCAL
DRILLING COMPANY ARTHUR DRILLING DRILLER MATT METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 6.0 IN DEPTH DRILLED 26.5 FT DEPTH TO WATER: INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT INTERVAL 0 FT TO 26.5 FT
NOTES ____

WELL DEPTH	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.G. LOG	SOIL DESCRIPTION
	0				0-3' ASPHALT
	2			ML	3'-5' SNDY SLT (ML); 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	4		SB3A 7		5-7' CLY (CL)
	6		11 13	CL	7-15' SNDY SLT (ML); 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	8				
	10		SB3B 6 20 11	ML	
	12				
	14				
	16		SB3C 7 7 8		15-20' SLTY CLY (CL)
	18			CL	
	20		SB3D 4 9 17		20-26.5' SNDY SLT (ML); 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	22			ML	
	24		SB3E 7		
	26		11 15		
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#:T0603900072

WATERWORK

WELL/BORING LOG

PROJECT CIRCLE K CHOWCHILLA LOCATION 1104 ROBERTSON BLVD, CHOWCHILLA PROJECT NO. 21106-1
WELL/BORING NO. CKCSB4 SURFACE ELEVATION ____ FT WELLHEAD ELEVATION ____ FT
DATE DRILLED 07/27/89 REVIEWED BY RUSSELL JUNCAL RG3864 LOGGED BY R. JUNCAL
DRILLING COMPANY ARTHUR DRILLING DRILLER MATT METHOD HOLLOW STEM AUGER
BORE HOLE DIAMETER 6.0 IN DEPTH DRILLED 26.5 FT DEPTH TO WATER: INITIAL ____ FT STATIC ____ FT
CASING TYPE ____ DIAMETER ____ IN SCHEDULE ____ IN INTERVAL ____ FT TO ____ FT
SCREEN TYPE ____ DIAMETER ____ IN SLOT SIZE ____ IN INTERVAL ____ FT TO ____ FT
FILTER PACK TYPE ____ INTERVAL ____ FT TO ____ FT
SURFACE SEAL TYPE NEAT CEMENT INTERVAL 0 FT TO 26.5 FT
NOTES ____

WELL DEPTH	DEPTH (FT.)	PID (PPM)	SAMPLE ID BLOWCOUNT	U.S.G. LOG	SOIL DESCRIPTION
	0				0-6' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	2			ML	
	4		SB4A 9		
	6		39		
			>50	CL	6-7' CLY (CL)
	8				7-14' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	10		SB4B 7	ML	
			17		
	12		26		
	14				14-21' PRLY GRDD SND (SP): FN-CRS, SUBRND, MED DNS, BRN, SM, NPO
	16		SB4C 3		
			10		
	18		10	SP	
	20		SB4D 6		
			9		21-26.5' SNDY SLT (ML): 20% FN-CRS, SUBANG SND, 80% SLT, NPLST, LOW TGHNSS, BRN, SM, NPO
	22		11		
	24			ML	
			SB4E 7		
	26		16		
			19		
	28				
	30				
	32				
	34				
	36				
	38				
	40				

GEOTRACKER ID#:T0603900072

PROJECT NO. S8053-06-01

BORING/WELL NO. B 1

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1–5	12	B1-1		Loose, dry, brown, Silty, medium to coarse SAND (SM)		
6–9				Hard, dry, brown, SILT with trace of fine sand (ML)		
10	76	B1-2				ND
11–14				Medium dense, dry, brown, coarse SAND (SP)		
15	38	B1-3				ND
16–19						
20	53	B1-4				ND
21–24				Dense, dry, brown, fine to medium SAND (SP)		
25	70	B1-5		Dense, dry, brown, Silty, medium to coarse SAND (SM)		ND
26–29				Dense, dry, brown, medium to coarse SAND with trace of silt (SW)		

Figure A-1, Log of Boring B 1

Continued Next Page

CUST

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: DAVE DIEM

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 1

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
31	100	B1-6		Very dense, dry, brown, Silty, Clayey, fine to medium SAND (SW)		ND
35	82	B1-7		Very dense, dry, brown, Silty, coarse SAND (SM)		ND
40	57	B1-8		Dense, well graded, light brown, Clayey medium SAND (SC)		ND
45				BORING TERMINATED AT 40.5 FEET		ND

Figure A-2, Log of Boring B 1

CUST

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 2

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1–4				Loose, dry, brown, medium to coarse SAND with minor organic material (SP)		
5	6	B2-1				ND
6–9						
10	75	B2-2		Very dense, dry, brown, fine to medium SAND (SP)		ND
11–14						
15	55	B2-3		Dense, dry, brown, coarse SAND (SP)		ND
16–19						
20	46	B2-4		Medium dense, dry, brown, coarse SAND (SP)		ND
21–24				Dense, dry, brown, Clayey, fine to medium SAND (SC)		
25	52	B2-5				ND
26–29						

Figure A-3, Log of Boring B 2

Continued Next Page

CUST

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: DAVE DIEM

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 2

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
31	49	B2-6		Medium dense, dry, light brown, medium to coarse SAND (SP)		ND
35	59	B2-7		Dense, dry, light brown, fine to medium SAND (SP)		ND
40	46	B2-8		Dense, dry, brown, Silty, fine to medium SAND (SP-SM)		12
45	69	B2-9		Dense, dry, grayish brown, medium to coarse SAND (SP)		68
48				Dense, dry, light brown, fine SAND (SP)		
50	63	B2-10				3
55	55	B2-11		Dense, dry, light brown, poorly graded, fine SAND (SP)		ND
				BORING TERMINATED AT 55.5 FEET		

Figure A-4, Log of Boring B 2

CUST

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 3

DATE DRILLED 11/18/93 WATER LEVEL (ATD) _____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1				"STRAIGHT" Drilled to 15 feet first sample B3-3		
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15	45	B3-3		Dense, dry, brown, coarse SAND (SP)		ND
16						
17						
18						
19						
20	48	B3-4		Dense, dry brown, fine to medium SAND (SP)		ND
21						
22						
23						
24				Medium dense, dry, light brown, Silty, fine		
25	35	B3-5		SAND (SM)		8
26						
27				Dense, dry, light brown, coarse SAND (SP)		
28						
29						

Figure A-5, Log of Boring B 3

Continued Next Page

CUST

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: DAVE DIEM

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 3

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
31	66	B3-6				ND
35	61	B3-7		-Dense, dry, light brown, coarse SAND (SP)		ND
40	60	B3-8		Dense, dry, reddish, well graded, fine SAND with trace silt and clay (SM-SP)		12
45	57	B3-9		Dense, dry, grey, coarse SAND (SP)		220
50	75	B3-10		Dense, dry, fine to medium SAND (SP) BORING TERMINATED AT 50.5 FEET		ND

Figure A-6, Log of Boring B 3

CUST

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 4

DATE DRILLED 11/18/93 WATER LEVEL (ATD) _____

EQUIPMENT B-61 DRILLER SB & S

DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
1				"STRAIGHT" Drilled to 15 feet		
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15	24	B4-3		Medium dense, dry, light brown, coarse SAND (SP)		ND
16						
17						
18						
19						
20	29	B4-4		Medium dense, moist, grey, Silty CLAY interbedded with trace light brown fine sand (CL)		ND
21						
22						
23						
24				Dense, dry, grayish brown, poorly graded, Silty SAND (SM)		
25	51	B4-5				ND
26						
27				Medium dense, dry, brown, coarse SAND (SP)		
28						
29						

Figure A-7, Log of Boring B 4

Continued Next Page

CUST

CASING ELEVATION:	QUANTITY OF FILTER MATERIAL:
DIAMETER & TYPE OF CASING:	WELL SEAL & INTERVAL:
CASING INTERVAL:	WELL SEAL QUANTITY:
WELL SCREEN:	ANNULUS SEAL/INTERVAL:
SCREEN INTERVAL:	ADDITIVES:
WELL COVER:	WELL DEPTH:
FILTERPACK/INTERVAL:	ENGINEER/GEOLOGIST: DAVE DIEM

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114

PROJECT NO. S8053-06-01

BORING/WELL NO. B 4

DATE DRILLED 11/18/93 WATER LEVEL (ATD) ____

EQUIPMENT B-61 DRILLER SB & S

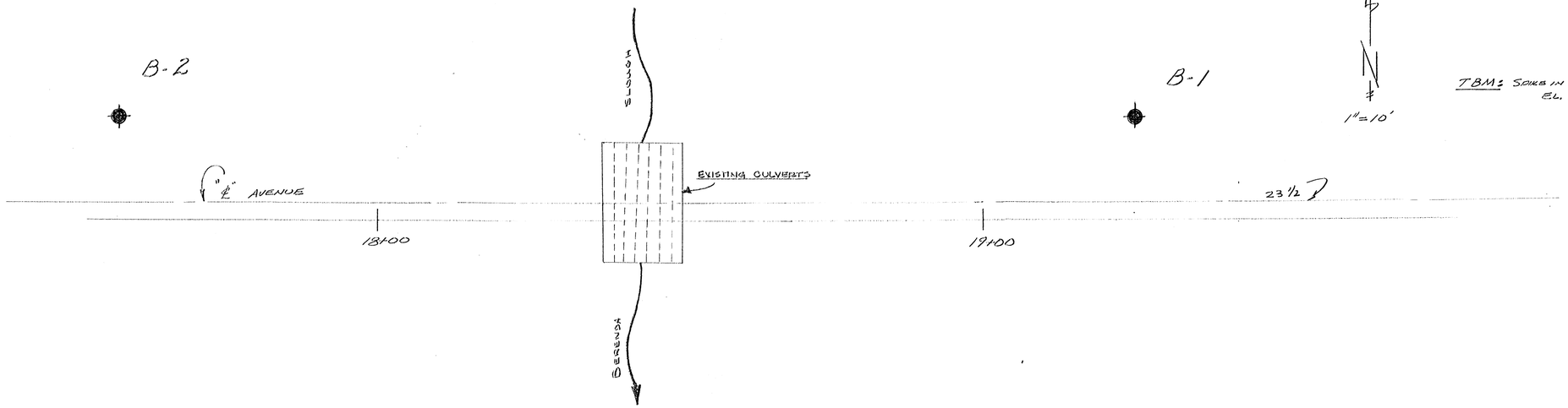
DEPTH IN FEET	PENETRAT. RESIST. BLWS/FT.	SAMPLE NO.	LITHOLOGY	SOIL DESCRIPTION	WELL CONSTRUCTION	HEADSPACE (PPM)
31	44	B4-6				ND
35	74	B4-7		-Dense, dry, brown, coarse SAND (SP)		ND
40	80	B4-8		-Very dense, dry, reddish brown, brown, coarse SAND (SP)		18
45	60	B4-9		Dense, dry, grey, fine to medium SAND (SP)		198
50	66	B4-10		Dense, dry, greyish brown, fine to medium SAND (SP)		ND
				BORING TERMINATED AT 50.5 FEET		

Figure A-8, Log of Boring B 4

CUST

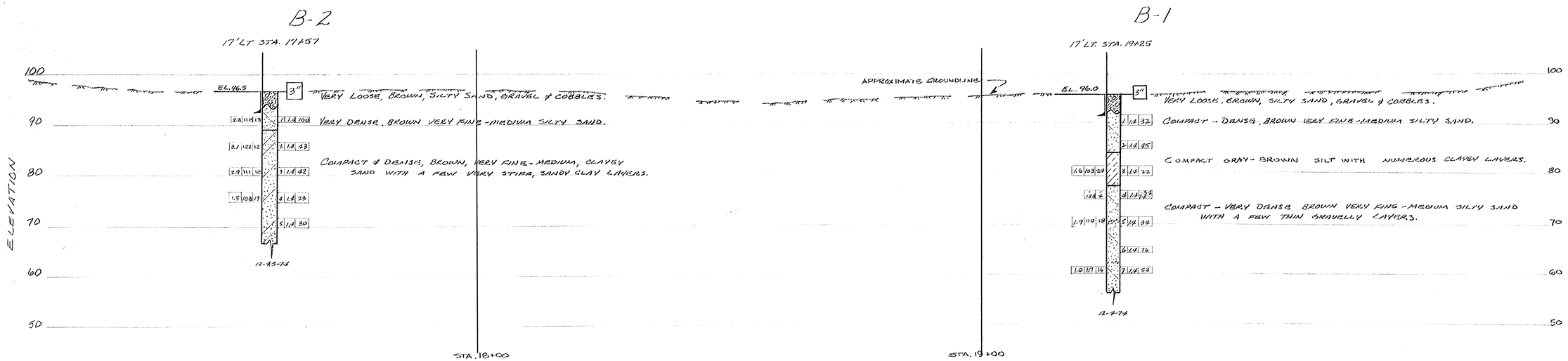
NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900114



PLAN

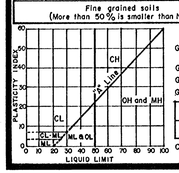
PROFILE



LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than N°4 sieve.				Gravels - more than 50% of coarse fraction is larger than N°4 sieve.			
Fine grained soils (More than 50% is smaller than N° 200 sieve)							Coarse grained soils (More than 50% is larger than N° 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)		Fine sand		Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	¾"	3"	12"		

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

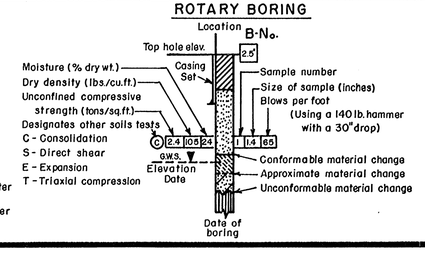
According to the Standard Penetration Test

N° of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

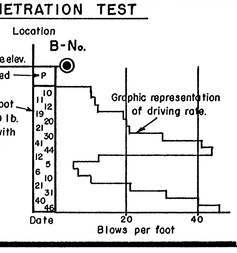
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2¼ "Cone penetrometer
- 2½ "Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER NORTHERN CALIFORNIA
CONSULTING ENGINEERS AND GEOLOGISTS

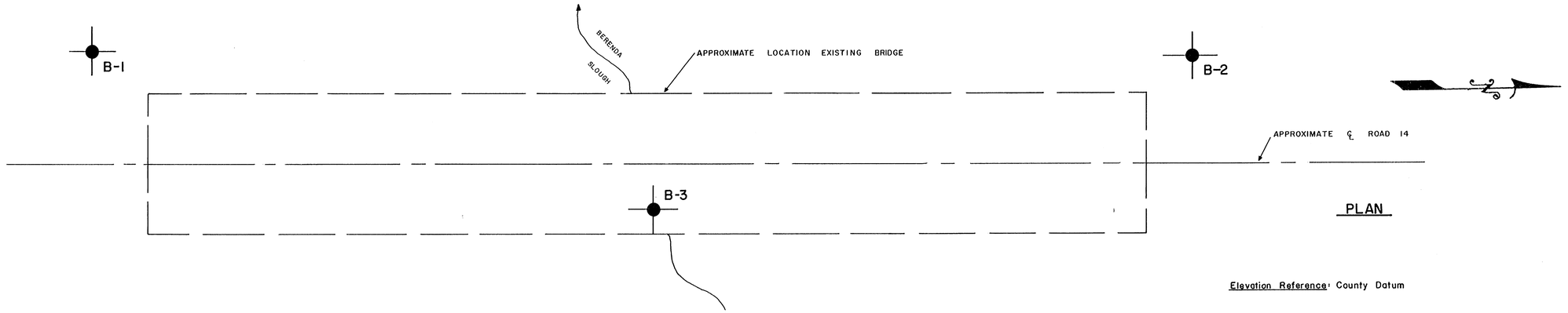
APPROVED H.R. Taber 7 Feb 75 JOB No. 374/TAF-2
REGISTERED CIVIL ENGINEER No. 9165

MADERA COUNTY

AVENUE 23½ BRIDGE
AT
BERENDA SLOUGH

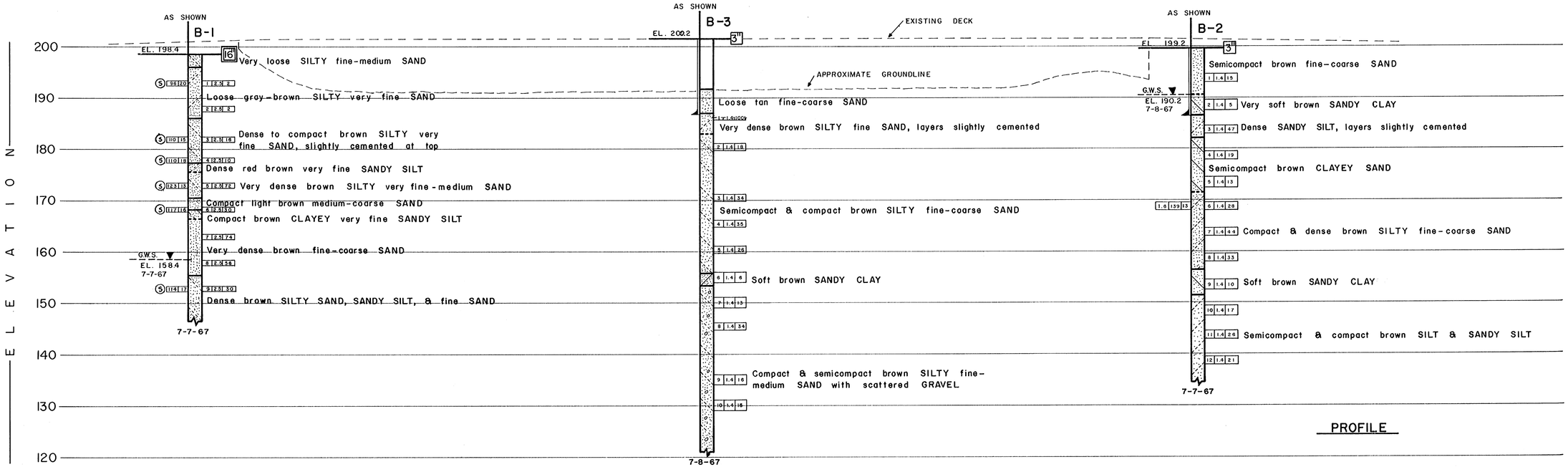
LOG OF TEST BORINGS

Scale 1"=10' | Date 12-12-74 | By ADB | Check by GBY | Drawing 2 of 3



PLAN

Elevation Reference: County Datum

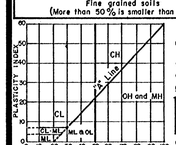


PROFILE

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than No 4 sieve.				Gravels - more than 50% of coarse fraction is larger than No 4 sieve.			
Fine grained soils (More than 50 % is smaller than Nº 200 sieve)							Coarse grained soils (More than 50% is larger than Nº 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#40	#10	#4	3/4"	3"	12"	

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

Gravel; Sand; Silt; Clay; Sandy clay or clayey sand; Sandy silt or silty sand; Silty clay or clayey silt; Peat or organic matter; Fill material; Shale; Sandstone; Limestone; Metamorphic rock; Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

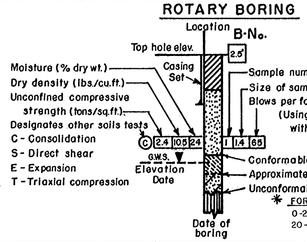
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

LEGEND OF BORING OPERATIONS

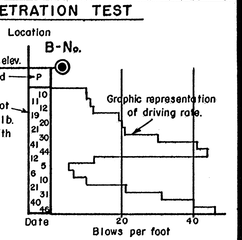
Plan of any boring; Rotary boring; Diamond core boring; Auger boring; Sample boring; Jet boring; Test pit; 2¼" Cone penetrometer; 2½" Cone penetrometer

ROTARY BORING



* FOR 16" AUGER HOLES
0-20 ft. Depth — 1,000 ft. lb. BLOWS
20-50 ft. Depth — 500 ft. lb. BLOWS

PENETRATION TEST



MOORE & TABER · Engineers · Geologists

APPROVED H. R. Taber 10-23-67
REGISTERED CIVIL ENGINEER No. 9165

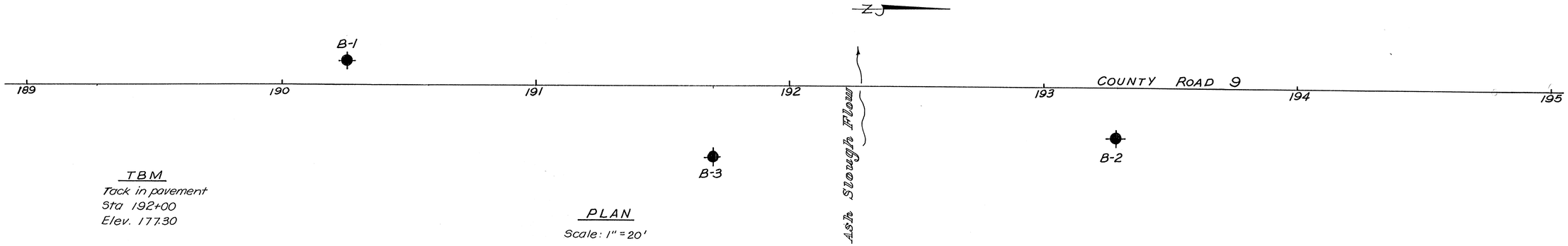
JOB No. 3761F-2

MADERA COUNTY

ROAD 14 over BERENDA SLOUGH

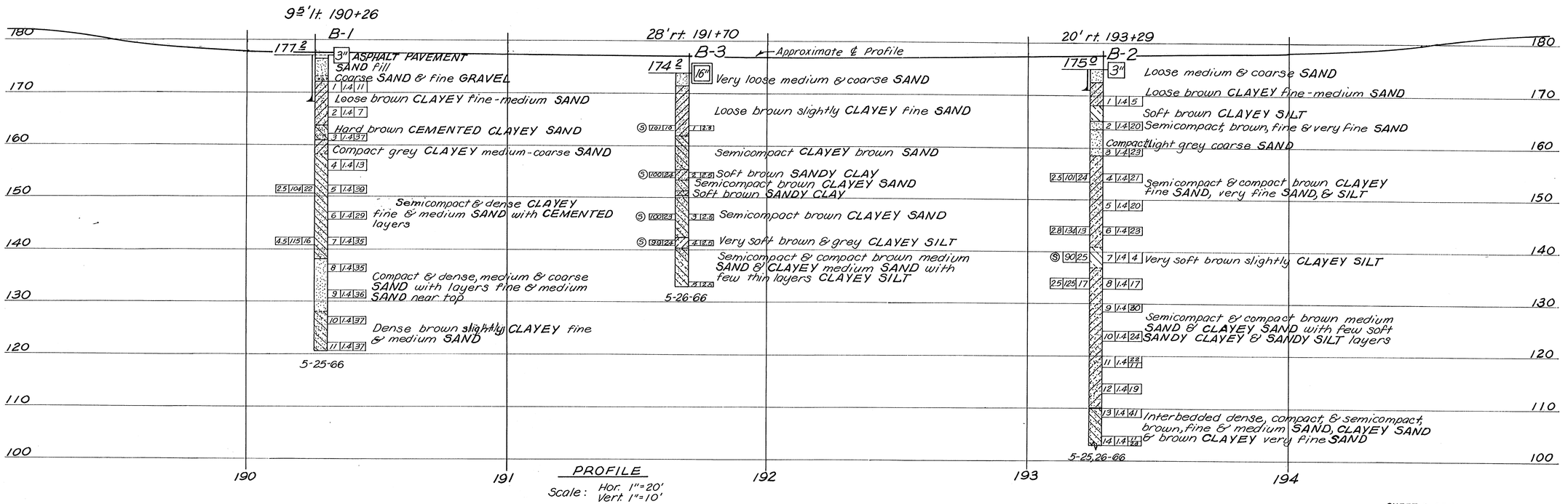
LOG OF TEST BORINGS

Scale	Date	By	Drawing
1"=10'	July 11, 1967	Check by	



TBM
Tack in pavement
Sta 192+00
Elev. 177.30

PLAN
Scale: 1" = 20'



PROFILE
Scale: Hor. 1"=20'
Vert. 1"=10'

LEGEND OF EARTH MATERIALS

SIZE CLASSIFICATION

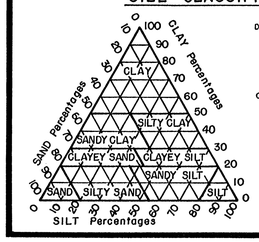


Diagram showing the basis of grain size distribution used in determination of class names. Size classification is based on the M.I.T. grade scale in field and laboratory classification unless stated otherwise.

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply mechanical analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material.
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION

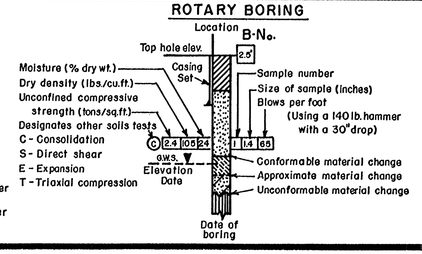
According to the Standard Penetration Test

No. of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
70+	Very dense	Very hard

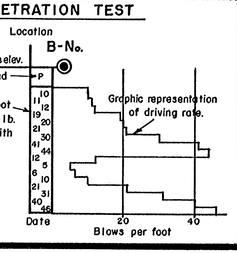
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2¼" Cone penetrometer
- 2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



SHEET 5 OF 5

MOORE & TABER • Engineers • Geologists

APPROVED H.R. Taber June 23, 1966
REGISTERED CIVIL ENGINEER No. 9165

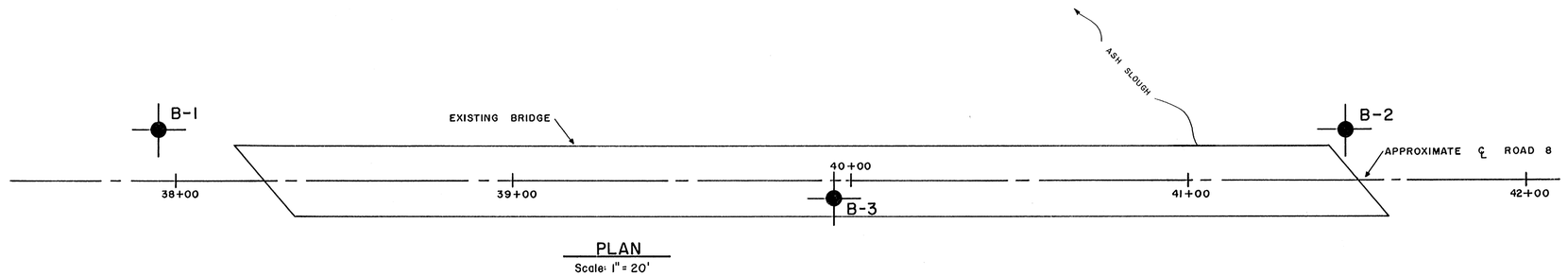
JOB No. 3656F-2

COUNTY OF MADERA

ASH SLOUGH BRIDGE

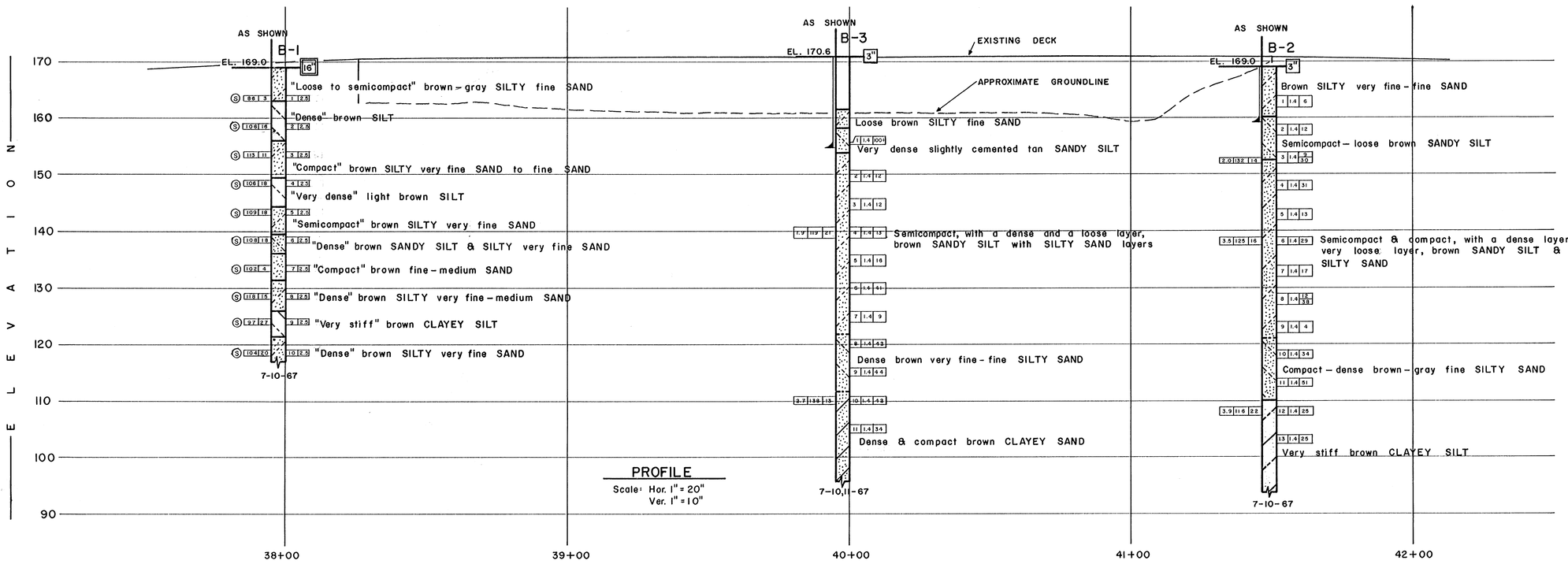
LOG OF TEST BORINGS

Scale As shown | Date May 1966 | By | Check by | Drawing



PLAN
Scale: 1" = 20'

ELEVATION REFERENCE: COUNTY DATUM

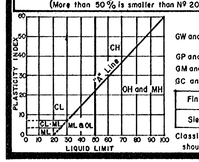


PROFILE
Scale: Hor. 1" = 20'
Ver. 1" = 10'

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than №4 sieve.				Gravels - more than 50% of coarse fraction is larger than №4 sieve.			
	Fine grained soils (More than 50% is smaller than №200 sieve)						Coarse grained soils (More than 50% is larger than №200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)		Fine sand		Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	3/8"	3/4"	3"		

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

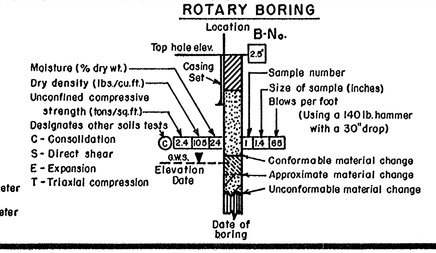
According to the Standard Penetration Test

№ of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

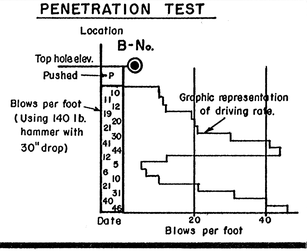
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2¼" Cone penetrometer
- 2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER · Engineers · Geologists

APPROVED H. R. Taber 10-25-67
REGISTERED CIVIL ENGINEER No. 9165

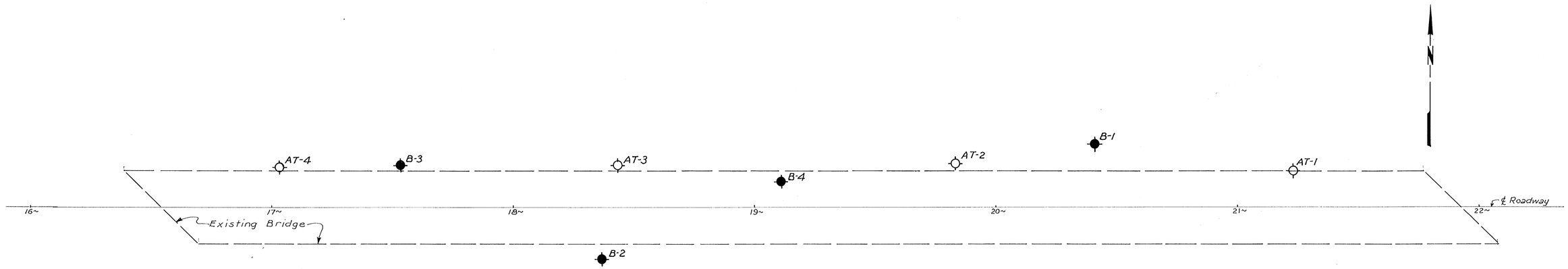
JOB No. 3761F-3

MADERA COUNTY

ROAD 8 over ASH SLOUGH

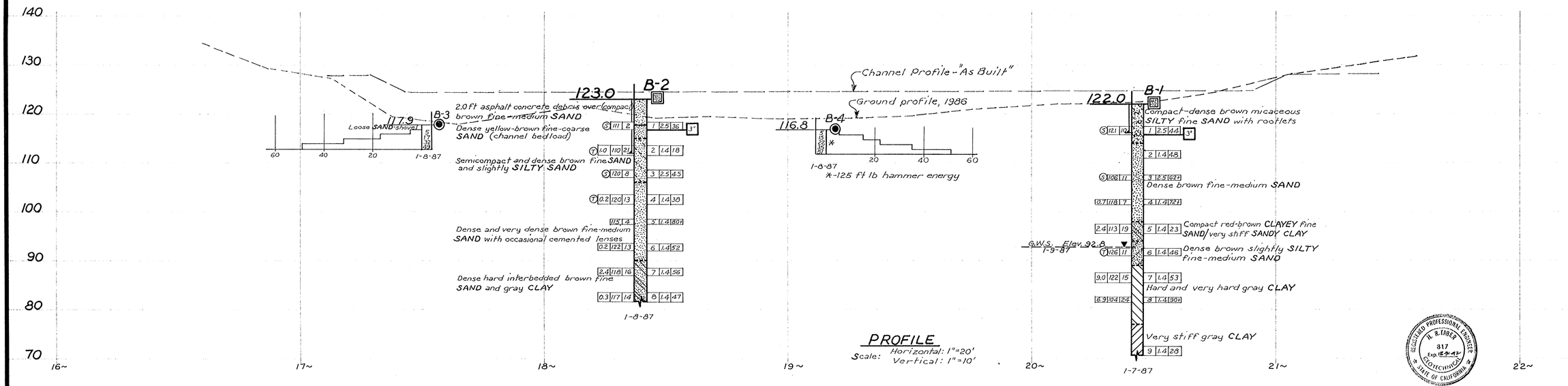
LOG OF TEST BORINGS

Scale	Date	By	Drawing
As Noted	Aug. 16, 1967	Check by	



PLAN
Scale: 1"=20'

Elevation Reference:
Brass Cap, Center of bridge, North edge
Elev. 139.24 - Madera County datum



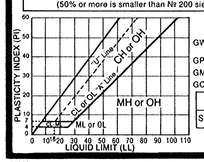
PROFILE
Scale: Horizontal: 1"=20'
Vertical: 1"=10'

REGISTERED PROFESSIONAL ENGINEER
H. R. FABER
817
Exp. 12-31-91
GEOTECHNICAL
STATE OF CALIFORNIA

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION SUMMARY

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit 50 or more			Silts and clays Liquid limit less than 50			Sands with fines > 12% fines		Clean sands < 5% fines		Gravels with fines > 12% fines		Clean gravels < 5% fines	
	Fine grained soils (50% or more is smaller than № 200 sieve)						Sands — 50% or more of coarse fraction is smaller than № 4 sieve				Gravels — more than 50% of coarse fraction is larger than № 4 sieve			
							Coarse grained soils (More than 50% is larger than № 200 sieve							



LABORATORY CLASSIFICATION CRITERIA

GW and SW — $Cu = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP — Clean gravel or sand not meeting requirements for GW and SW.

GM and SM — Atterberg limits below "A" line or P.I. less than 4.

GC and SC — Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)	Sand			Gravel		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		
Sieve sizes	200	40	10	4	3/4"	3"	10"

Classification of earth materials shown on test boring logs is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY OF CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

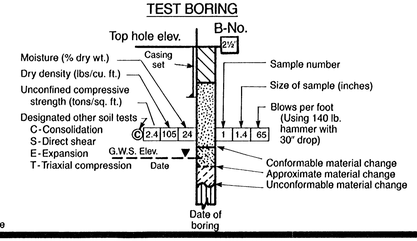
№ of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
> 70	Very dense	Very hard

Where standard penetration test has not been performed consistencies shown on logs are estimated.

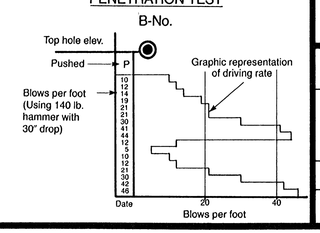
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2" Cone penetrometer
- 2½" Cone penetrometer
- S-1 → ← S-2 Refraction seismic line

TEST BORING



PENETRATION TEST



TABER CONSULTANTS Engineers & Geologists

APPROVED H.R. Taber 5-11-90 JOB № IPI385/65-2.7

License № ACE - 0165

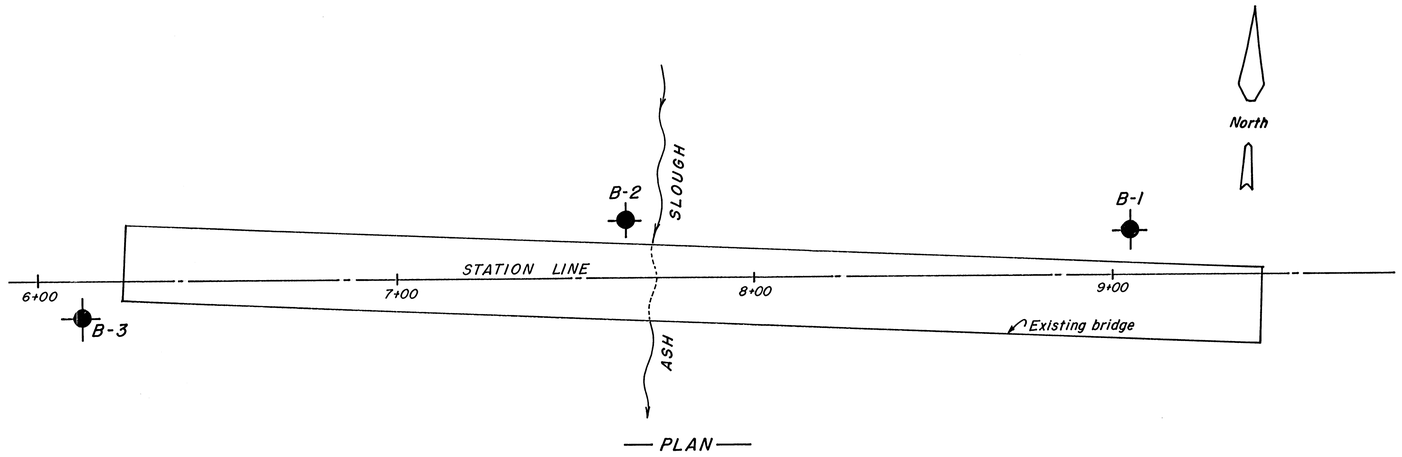
MADERA COUNTY

AVENUE 21 BRIDGE AT EASTSIDE BYPASS

LOG OF TEST BORINGS

Scale: As shown | Date: February, 1987 | By: J.O.D. | Check by: M.E.B. | Drawing: Sheet-1

93310

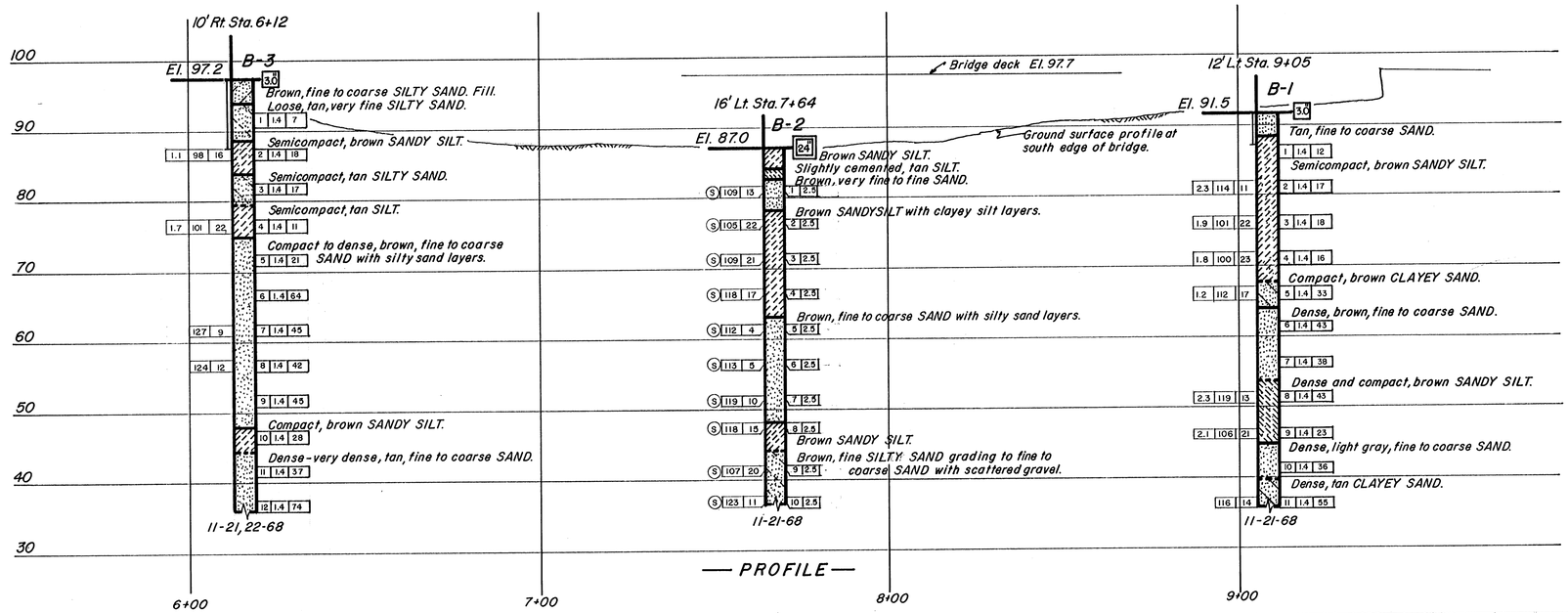


— PLAN —

— NOTE —

T.B.M. Spike in power pole
±33' Lt. Sta. 10+00
Elev. 100.00 (assumed)
Madera county datum.

No groundwater encountered.

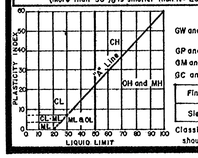


— PROFILE —

LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than No 4 sieve.				Gravels - more than 50% of coarse fraction is larger than No 4 sieve.			
Fine grained soils (More than 50% is smaller than No 200 sieve)							Coarse grained soils (More than 50% is larger than No 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_U = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

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Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.

MATERIAL SYMBOLS

- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

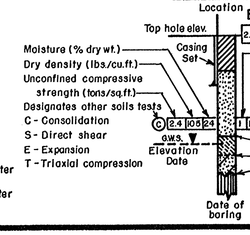
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

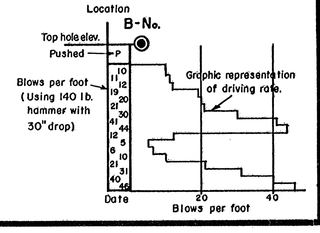
LEGEND OF BORING OPERATIONS

- Plan of any boring
- Rotary boring
- Diamond core boring
- Auger boring
- Sample boring
- Jet boring
- Test pit
- 2¼" Cone penetrometer
- 2½" Cone penetrometer

ROTARY BORING



PENETRATION TEST



MOORE & TABER · Engineers · Geologists

APPROVED H. R. Taber 12-31-68
REGISTERED CIVIL ENGINEER No. 9165

JOB No. 38-83F-3

MADERA COUNTY

AVENUE 21 OVER ASH SLOUGH

LOG OF TEST BORINGS

Scale Horiz. 1" = 20' Vert. 1" = 10'

Date Dec. 4, 1968

By A.L.S.

Check By

Drawing

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-6

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	CAL.			139	177

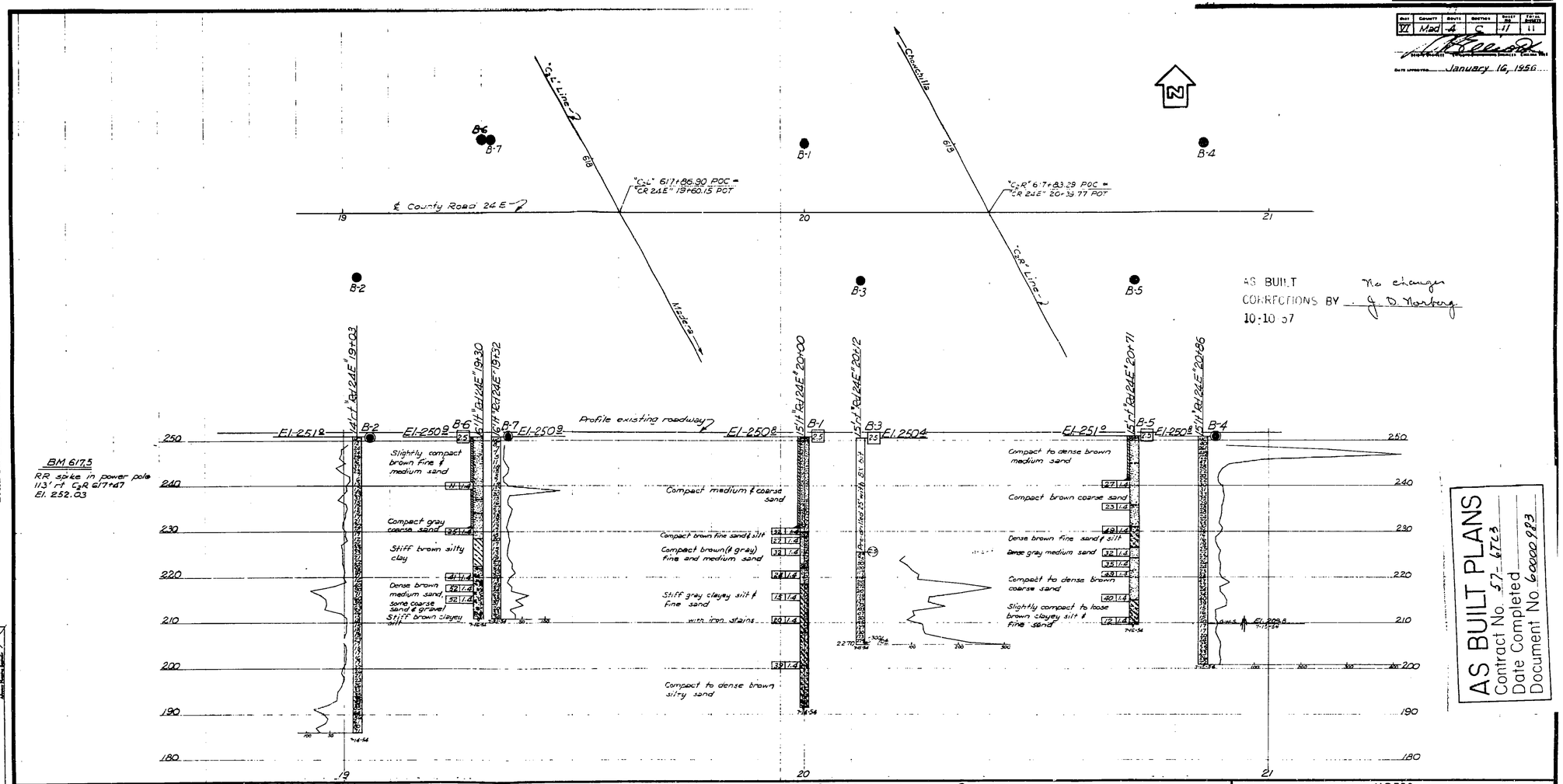
DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
VI	Mad	4	C	11	11

DISTRICT ENGINEER — SACRAMENTO, CALIFORNIA

DATE APPROVED January 16, 1956

BRIDGE DEPARTMENT

AS BUILT — No changes
CORRECTIONS BY J. D. Norberg
10:10 57



FIELD STUDY		
b. D.E. Brown	7/54	
b. D.E. Brown	8/54	
CHECKED	b. D.E. Brown	9/54

Approval Recommended by: [illegible] Bridge Engineer
[illegible] Bridge Engineer

AS BUILT PLANS
Contract No. 57-6723
Date Completed
Document No. 60000983

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

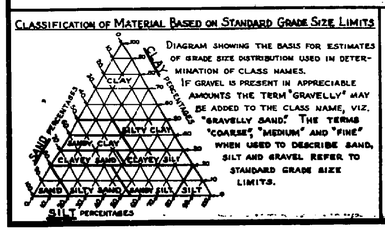


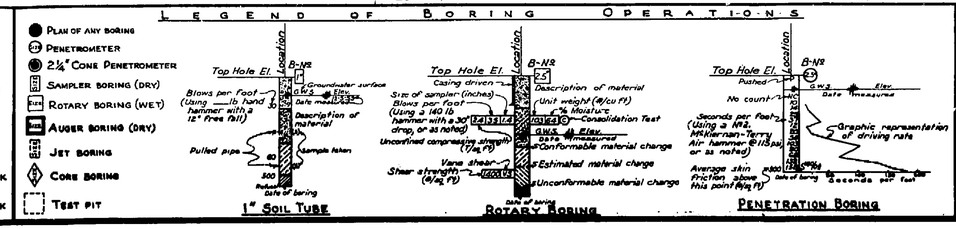
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PEN — PENETROMETER
- 2½" CONE PENETROMETER
- SPT — SAMPLER BORING (DRY)
- ROT — ROTARY BORING (WET)
- AUG — AUGER BORING (DRY)
- JET — JET BORING
- CORE — CORE BORING
- TEST PIT



NOTES

The contractor's attention is directed to Section 2, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans.

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

ROAD 24E OVERCROSSING

LOG OF TEST BORINGS

SCALE 1"=10'	BRIDGE 41-54	FILE 41	DRAWING C=3477-11

PREL. DRAWING NO. P-3477 37

139

PR-3477-2

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE June 21, 1971 SIGNATURE [illegible] TITLE [illegible]

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BR41-0054

DATE: 9-26-89
LOGGED BY: JH

LOG DESIGNATION TH-1

ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
					SM	Silty SAND: reddish brown; dry; fine to coarse grained; poorly graded; estimated 20% to 25% fines; medium dense; cemented; trace of pebbles.	
	2.5	63					TIP = 0
						Becomes damp.	
5	2.5	35					TIP = 0
					SP	SAND: reddish yellow brown; damp; fine to medium grained; medium dense; trace of clay.	
10	2.5	P					TIP = 0
					SW	Grades fine to coarse; well graded.	
15	2.5	P					TIP = 0
					SM	Silty SAND: olive brown; moist; fine grained; estimated 15% to 20% fines; medium dense.	
					SP	SAND: light yellow brown; damp; fine to medium grained; medium dense.	
20	2.5	P					TIP = 0
					SM	Silty SAND: yellow brown; moist; fine to medium grained; estimated 20% to 25% fines; medium dense.	(Continued)

GEOTRACKER ID#:T0603900069

THE LOGS SHOW SUBSURFACE CONDITIONS AT THESE LOCATIONS AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS

(1) SAMPLER INSIDE DIAM.
(2) 140 lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH
ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

LOG DESIGNATION TH-1 (Cont'd)

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
25	2.5	P			SM	Silty SAND: yellow brown; moist; fine to medium grained; estimated 20% to 25% fines; medium dense.	TIP = 0
					GW	Gravelly SAND: yellow brown; moist; fine to coarse grained; well graded; medium dense.	
30	2.5	45	For	6"			TIP = 0 Terminated at 30' No Groundwater Encountered at Time of Drilling
35							
40							
45							
50							

GEOTRACKER ID#:T0603900069

THESE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS

(1) SAMPLER INSIDE DIAM.
(2) 140 lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH

LOG DESIGNATION TH-2

ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
					SM	Silty SAND: dark yellow brown; moist; fine to medium grained; estimated 30% to 35% fines; medium dense; silty lens with strong gas odor at 2' to 5'.	TIP = 80
	2.5	28					TIP = 0
					SM	Silty SAND: reddish brown; dry; fine to medium grained; cemented; medium dense.	
5	2.5	P			SM	Silty SAND: reddish brown; damp; fine to coarse grained; poorly graded; medium dense.	TIP = 0
					SP	SAND: reddish yellow brown; moist; fine to coarse grained; poorly graded; trace of silt; medium dense.	
10	2.5	P					TIP = 0
						Grades to light grey.	
15	2.5	P					TIP = 0
					SM	Silty SAND: olive brown; damp; fine grained; estimated 25% to 30% fines; medium dense; contains Sandy Silt lenses.	
20	2.5	P					TIP = 0
					SM	Silty SAND: yellow brown; damp; fine grained; estimated 10% to 15% fines; medium dense.	
25							(Continued)

GEOTRACKER ID#:T0603900069

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS

(1) SAMPLER INSIDE DIAM.
(2) 140lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK

DATE: 9-26-89
LOGGED BY: JH
ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

LOG DESIGNATION TH-2 (Cont'd)

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
25	2.5	P			SM	Silty SAND: yellow brown; damp; fine grained; estimated 10% to 15% fines; medium dense.	TIP = 0
					SW	Gravelly SAND: light grey; damp; fine to coarse grained; well graded; medium dense.	
30	2.5	45	For	6"			TIP = 0 Terminated at 30' No Groundwater Encountered at Time of Drilling
35							
40							
45							
50							

GEOTRACKER ID#:T0603900069

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS

(1) SAMPLER INSIDE DIAM.
(2) 140 lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH
ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

LOG DESIGNATION TH-3

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
					SM	Silty SAND: reddish yellow brown; dry; fine to coarse grained; poorly graded; medium dense; trace of clay; cemented.	
	2.5	44					TIP = 0
5	2.5	P			SM	Silty SAND: reddish yellow brown; damp; fine to coarse grained; estimated 25% to 30% fines; medium dense.	TIP = 0
					SP	SAND: light yellow brown; damp; fine grained; medium dense.	
10	2.5	P					TIP = 0
						Trace of silt.	
15	2.5	P					TIP = 0
						Grades fine to coarse.	
20	2.5	33					TIP = 0
25					SM	Silty SAND: olive brown; moist; fine grained; estimated 15% to 20% fines; medium dense.	(Continued)

GEOTRACKER ID#:T0603000069

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS

(1) SAMPLER INSIDE DIAM.
(2) 140 lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH

LOG DESIGNATION TH-3 (Cont'd)

ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS / FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
25	2.5	P			SM	Silty SAND: olive brown; moist; fine grained; estimated 15% to 20% fines; medium dense.	TIP = 0
30					SP	SAND: yellow brown; moist; fine to medium grained; medium dense; trace of gravel.	
	2.5	45	For	6"			TIP = 0 Terminated at 30' No Groundwater Encountered at Time of Drilling
35							
40							
45							
50							

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES

GEOTRACKER ID#:T0603900069

(1) SAMPLER INSIDE DIAM.
(2) 140 lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH

LOG DESIGNATION TH-4

ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
					SC	Silty Sandy CLAY: reddish yellow brown; dry; hard; cemented.	
	2.5	P For 3" 36 For 9"					TIP = 0
5	2.5	P			SM	Silty SAND: reddish brown; damp; fine to coarse grained; estimated 15% to 20% fines; medium dense; lightly cemented.	TIP = 0
					SW	Grades to fine to coarse Sand; trace of Silt.	
10	2.5	P					TIP = 0
15	2.5	P					TIP = 0
20	2.5	P			SM	Silty SAND: olive brown; damp; fine grained; estimated 35% to 40% fines; medium dense.	TIP = 0
						Grades 20% to 25% fines.	
25							(Continued)

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOTRACKER ID#:T0603900069

(1) SAMPLER INSIDE DIAM.
(2) 140lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

DATE: 9-26-89
LOGGED BY: JH
ELEVATION:
WATER LEVEL: No Groundwater Encountered at Time of Drilling
EQUIPMENT: 8" Hollow Stem Auger, CME-75 Drill Rig

LOG DESIGNATION TH-4 (Cont'd)

JOB: G89083
FIGURE:

DEPTH, FEET	NOMINAL (1) DIAMETER, IN.	BLOWS/FOOT (2)	MOISTURE %	DRY DENSITY, PCF	U.S.C	SOIL OR ROCK DESCRIPTION	NOTES
25	2.5	P			SM	Silty SAND: olive brown; damp; fine grained; estimated 20% to 25% fines; medium dense.	TIP = 0
30	2.5	45	For	6"	SW	Gravelly SAND: light grey; damp; fine to coarse grained; medium dense.	TIP = 0 Terminated at 30' No Groundwater Encountered at Time of Drilling
35							
40							
45							
50							

THE LOGS SHOW SUBSURFACE CONDITIONS AT THE DATES AND LOCATIONS INDICATED, AND IT IS NOT WARRANTED THAT THEY ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES

GEOTRACKER ID#:T0603900068

(1) SAMPLER INSIDE DIAM.
(2) 140lbs HAMMER - 30 INCH DROP.
(P) HYDRAULICALLY PUSHED

BSK & Associates

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-7

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Mad	99	15.6/17.8	70	70

DATE APPROVED: September 11, 1973

H.M. # 2.45
A.R. spike in TP
143' Lt. "C-2" 24+50
Elev 252.65'

"C-2" 20+00.00 P.O.T. = "℄ 99" 328+04.92 P.O.C.

PLAN
Scale 1" = 40'

PROFILE
Scale Horiz. 1" = 40'
Vert 1" = 10'

Approx. ground line along "C-2" Line

B-4 25 — Slightly compact light brown SILTY FINE TO COARSE SAND.
Very dense rust brown & tan SILT to SANDY SILT with coarse SAND. Hard.
Dense light brown iron oxide stained SANDY SILT.
Dense light brown SILTY FINE to medium SAND with SILT lenses.
Dense brown iron oxide stained sandy SILT to fine SAND.
Slightly compact tan SANDY SILT to SILTY FINE to medium SAND.
Very dense tan MICACEOUS SANDY SILT with thin SILT lenses & LINEY streaks & SILTY FINE to coarse SAND. EI 210± 216±
Very dense grayish brown MICACEOUS SILT with iron oxide stains
Dense light brown FINE to medium SAND, SILTY SAND with Very dense SILT lenses at EI 184± LIGHT brown at depth with SILT varying from 41.05% - 10%.
Very dense light grayish brown alternating layers of SILT & FINE SANDY SILT to FINE to medium SAND.
Dense to very dense tan FINE to medium SAND.
Dense tan fine to medium SAND SILT lenses

B-3 25 — Slightly compact light brown coarse SAND.
Very stiff rust brown CLAYEY SANDY SILT to SANDY CLAY.
Very stiff light brown SANDY SILT with CLAY binder.
Soft rust brown SANDY SILTY CLAY to CLAYEY SANDY SILT with SAND lenses at EI 215± - 229±
Very dense rust brown laminated 10% of SILT, SANDY SILT with LINEY streaks
Dense brown MICACEOUS SANDY SILT with LINEY cemented streaks.
Very dense tan SILTY FINE to medium SAND grading to fine SANDY SILT.
Very dense light brown SILT

B-1 25 — Very dense tan SILTY FINE to medium SAND, grading to fine SANDY SILT.

B-2 248± — 300/0" 3-20-69

GWS EL 198± 1-26-69

3-26-69 · 3-19-69 · 3-25-69

18 · 19 · 20 · 21 · 22

260 · 250 · 240 · 230 · 220 · 210 · 200 · 190 · 180

23'LT "C-2" 18+35 · 21'LT "C-2" 19+30 · 28'LT "C-2" 21+51 · 25'LT "C-2" 23+04

LEGEND OF BORING OPERATIONS

PENETRATION BOUNDS

Penetrometer · 2½" Core Penetrometer · Sampler boring (SAM) · Rotary boring (WET) · Auger boring (DRY) · Jet boring · Core boring · Test pit

Top Hole El. 252.65 — Elev. of ground surface at boring
Blows per Foot — Number of blows of 140 lb. hammer falling 30" to drive 2" O.D. sampler 12" (Pen. 60)
Top Hole El. — Elev. of ground surface at boring
Size of Casing or Diameter of Hole
Casing pipe (Cas.) driven with 140 lb. hammer falling 30" unless otherwise designated
Type Sample
Sample recovered
Undisturbed sample
Top Hole El. — Elev. of ground surface at boring
Size of Casing or Diameter of Hole
Casing pipe (Cas.) driven with 140 lb. hammer falling 30" unless otherwise designated
Type Sample
Sample recovered
Undisturbed sample
Top Hole El. — Elev. of ground surface at boring
Size of Casing or Diameter of Hole
Casing pipe (Cas.) driven with 140 lb. hammer falling 30" unless otherwise designated
Type Sample
Sample recovered
Undisturbed sample
Pulled into place
Elev. of ground surface at boring
Size of Casing or Diameter of Hole
Type Sample
Sample recovered
Undisturbed sample
Pulled into place
1" Soil Tube
Undisturbed material obtained with 2½" O.D. Core Barrel
Undisturbed material obtained with 3" O.D. Core Barrel
Estimated material change
Approximate material change
Inferred material change
Undisturbed material obtained via 3/4" Core Barrel
Undisturbed material obtained via 3/4" Core Barrel
Estimated material change
Approximate material change
Inferred material change
Rock Core

LEGEND OF EARTH MATERIALS

Gravel · Sand · Silt · Clay · Silty Clay or Clayey Silt · Peat and Other Organic Matter · Fill Material · Igneous Rock · Sandy Clay or Clayey Sand · Silty Sand or Silty Sand · Sedimentary Rock · Metamorphic Rock

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

Divisions showing the basis for estimates of grade size distribution used in determining the type of class names.
Arrows point to the 4 "dividing" sizes between the 5 class names. The terms "gravelly sand," "sandy gravel," etc. refer to material containing "coarse," "medium," and "fine" sand, respectively, in addition to gravel, silt and gravel, refer to grade size limits.

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

FIELD STUDY	R. Miller 3-69
DRAWN	R. Miller 6-69
TRACED	
CHECKED	R. Miller 6-69

Approved Recommended by: Engineering Geologist

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

70

AS BUILT No Changes
CORRECTIONS BY R.A.Arie
CONTRACT NO. 06-023034
DATE 05-9-75
JRMy 08-29-75

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

AVENUE 18 1/2 OVERCROSSING

LOG OF TEST BORINGS

BRIDGE NO.	POST MILE	DRAWING NO.	SHEET	OF
41-69	16.3		11	11

REVISION DATES (PRELIMINARY STAGE ONLY)
Disregard prints bearing earlier revision dates →
8/14/73

WO CU PR 4169-2

MICROFILMED SEP 8 1975

AS BUILT PLANS
Contract No. 06-023034
Date Completed 5-5-75
Document No. 6711106593

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
DATE 9.8.75 VISUAL [illegible] TITLE Microfilm Supervisor

BR41-0069

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DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Mad	99	15.6/17.8	50	70

REGISTERED CIVIL ENGINEER NO. 8566

DATE APPROVED September 11, 1973

LEGEND OF BORING OPERATIONS

Penetrometer
2½" Cone Penetrometer
Sampler boring (dry)
Rotary boring (wet)
Auger boring (dry)
Jet boring
Core boring
Test pit

Too Hole El. 9.4±ft — Blows per foot — (Using 140 lb. hammer and 12" free fall) — Pulled 250 — Hard and dense — 1" Soil Tube

Too Hole El. 9.4±ft — Casing driven — Blows per foot — (Using 140 lb. hammer and 30" free fall) — Size of opening in material being sampled — Sharp cutting edge — Unconsolidated material sample — Undisturbed material sample — Undisturbed material sample — Unconsolidated material sample — Sharp cutting edge — Rotary Borings

Too Hole El. 9.4±ft — Packer — No. count per foot (Using a 140 lb. hammer with a 30" free fall) — Sounds and feels like gravel — Sounds and feels like sand — Average pen. resistance 9 blows per foot — Penetrometer

LEGEND OF EARTH MATERIALS

- Gravel
- Sand
- Silt
- Clay
- Sandy Clay or Clayey Sand
- Silty Clay or Clayey Silt
- Peat and Organic Matter
- Fill Material
- Igneous Rock
- Sandy Silt or Silty Sand
- Sedimentary Rock
- Metamorphic Rock

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

NOTE: THE PERCENTAGES OF GRAVEL, SAND AND FINES ARE ESTIMATED TO THE NEAREST 5% AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME. WHERE APPLICABLE THE TERMS "COARSE", "MEDIUM" AND "FINE" MAY BE USED TO DESCRIBE SAND, GRAVEL AND GRAVELLY SAND ACCORDING TO STANDARD GRADE SIZE LIMITS.

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

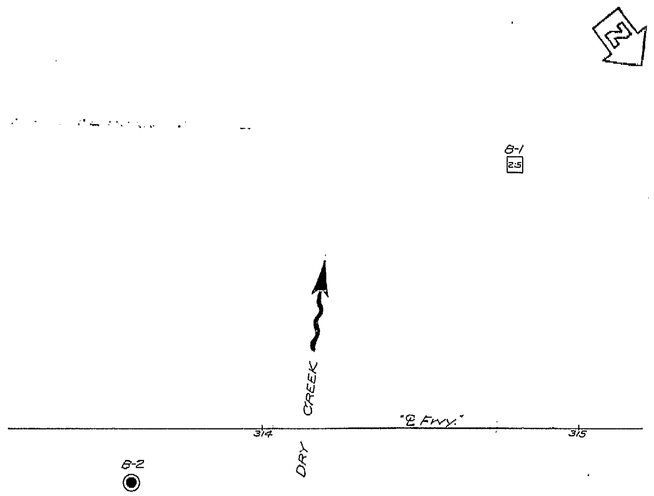
FIELD STUDY	Jr. G. Miller	3-69
DRAWN	Jr. R. Rivera	7-24-69
CHECKED	Jr. G. Miller	8-15-69

Approved Recommended by: [signature] Earthquake Geologist

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

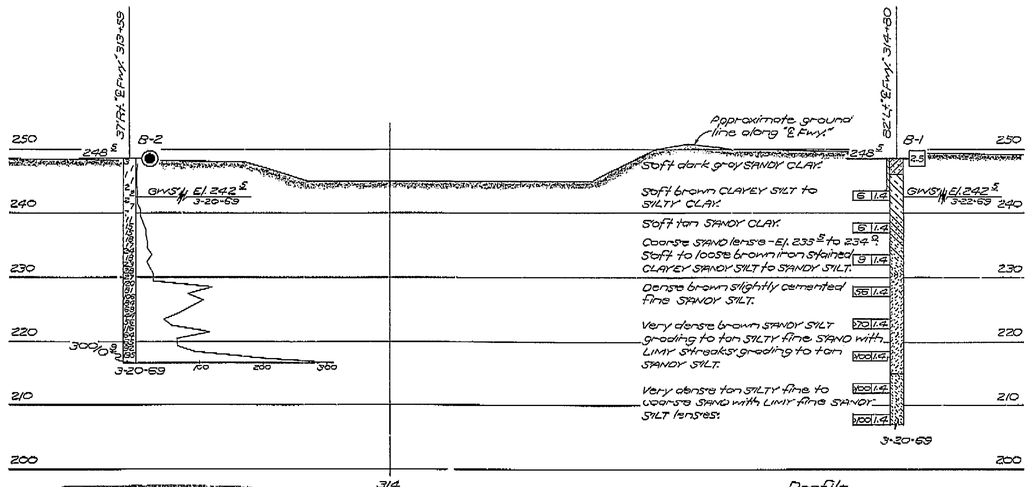
50

MICROFILMED SEP 8 1975



USC & GS BM "T-85 (1930)
Std. brass cap N. corner
Dry Crk. Br. N.B. lanes
Elev. 251.40

Plan
Scale: 1"=20'



Profile
Scale: 1"=10'

AS BUILT No Changes
CORRECTIONS BY R. Arie
CONTRACT NO. 06-023034
DATE 05/19/75
JRM: 08-29-75

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRY CREEK BRIDGE

LOG OF TEST BORINGS

BRIDGE NO.	POST MILE	DRAWING NO.	SHEET	OF
41-05 R/L			6	6

REVISION DATES (PRELIMINARY STAGE ONLY)

7/24/69											

Disregard points bearing earlier revision dates →

WO - CU PR4105-2

AS BUILT PLANS
Contract No. 06-023034
Date Completed 5-5-75
Document No. 60006593

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 9-8-75 SIGNATURE [signature] TITLE Micrographic Supervisor

DAS-88-70

BR41-0005

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GRISANTI & Associates

WELL / BORING LOG

WELL / MW-1
BORING NO. ___
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/14/92
LOCATION Madera Co., CA
HOLE DIAMETER 8"
HOLE DEPTH 25'
WELL DEPTH 25'
WELL DIAMETER 2"
ELEVATION

PROJECT NO.
LOGGED BY H. Sugden/J. Whiting
DRILLED BY Twining
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA Split Spoon
CASING TYPE PVC Sch 40, 2"
SLOT SIZE: 0.020"
GRAVEL PACK #16 Monterey Sand

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW/FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
CONCRETE, BLANK, SLURRY, BENTONITE, SAND, SCREEN		3 4 6	2 4 6 8 10 12 14			SM	SILTY SAND: dark brown; slightly damp; fine to medium grained; non-cohesive; with mica
						SW	SAND: white; damp; medium grained; non-cohesive; with mica
		5 13 13	16 18 20 22 24			GW	GRAVEL: light brown; moist to wet; non-cohesive; rounded coarse gravel with medium to coarse silty sand; with mica Wet cuttings at ~18.5-19.0' groundwater
			26 28 30 32 34 36 38 40				Boring terminated at 25'

GEOTRACKER ID#:T0603900118

GRISANTI & Associates — **WELL / BORING LOG**

WELL / MW-2
BORING NO. B2
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/14/92
LOCATION Madera, Co., CA
HOLE DIAMETER 8"
HOLE DEPTH 25'
WELL DEPTH 25'
WELL DIAMETER 2"
ELEVATION

PROJECT NO.
LOGGED BY H. Sugden/J. Whiting
DRILLED BY Twining
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA Split Spoon
CASING TYPE PVC Sch 40, 2"
SLOT SIZE: 0.020"
GRAVEL PACK #16 Monterey Sand

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW / FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
CONCRETE							Concrete 6"
			2			SM	SILTY SAND: discolored dark brown to black; slightly damp; non-cohesive; with mica; petroleum product odor
			4				
			6				
BLANK SLURRY			8			SM	SILTY SAND: medium dark brown, damp; fine to medium; non-cohesive; with mica; with subangular pebbles to 50mm
			10				
BENTONITE		5/5	12				
			14				
			16				
			18				Wet cuttings at ~18.5-19.0' --groundwater
SCREEN		15/43/50	20			GW	GRAVEL: gray to white; wet fine to coarse; with rounded pebbles and abundant mica; with fine to coarse silty sand
SAND			22				
			24				
			26				Boring terminated at 25'
			28				
			30				
			32				
			34				
			36				
			38				
			40				

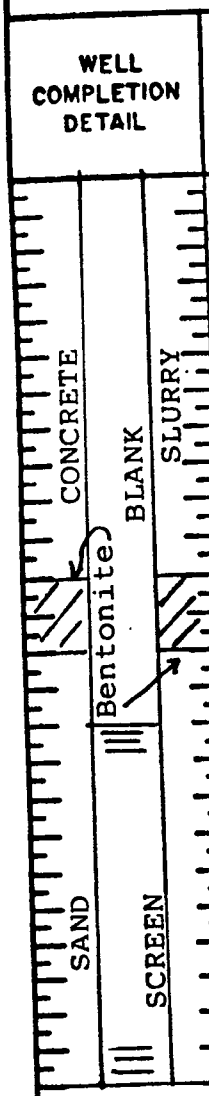
GEOTRACKER ID#:T0603900118

GRISANTI & Associates — **WELL / BORING LOG**

WELL / MW-3
BORING NO. ___
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/14/92
LOCATION Madera, Co., CA
HOLE DIAMETER 8"
HOLE DEPTH 25'
WELL DEPTH 25'
WELL DIAMETER 2"
ELEVATION

PROJECT NO.
LOGGED BY H. Sugden/J. Whiting
DRILLED BY Twining
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA Split Spoon
CASING TYPE PVC Sch 40, 2"
SLOT SIZE 0.020"
GRAVEL PACK #16 Monterey Sand



MOISTURE CONTENT	(BLOW / FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
	2 3 3	2 4 6 8 10 12			SM	SILTY SAND: dark brown; damp; non-cohesive; fine grained; with mica
	4 5 6	14 16			SW	SAND: white; moist; non-cohesive; coarse grained; with mica Wet cuttings at ~18.5-19.0' - groundwater
	5 6 8	18 20 22 24 26 28 30 32 34 36 38 40				Boring terminated at 25'

GEOTRACKER ID#:T0603900118

GRISANTI & Associates

WELL / BORING LOG

WELL / BORING B-1
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/9/92
LOCATION Madera County CA
HOLE DIAMETER 8"
HOLE DEPTH 19'
WELL DEPTH
WELL DIAMETER
ELEVATION

PROJECT NO.
LOGGED BY J. Whiting
DRILLED BY J. Watts/G. Nieves
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CAlif. Split Spoon
CASING TYPE
SLOT SIZE: 0.020"
GRAVEL PACK

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW/FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
			1–9			FILL	SILTY SAND: medium brown; slightly damp; medium grained; non-cohesive; with mica and coarse sand and rounded rock fragments to 75mm
		3/3	10			SW	SAND: white; damp to moist; medium to coarse grained; non-cohesive; with mica; slight to moderate petroleum odor
			11–13				
		8/9	14				grain size decreases: fine sand; moist
			15–16				
			17			GW	GRAVEL: white; moist; coarse; non-cohesive; with medium to coarse sand and mica
		34/50	18				
		50/50	19				wet; groundwater
			20				BORING TERMINATED AT 19'

GEOTRACKER ID#:T0603900118

RISANTI & ASSOCIATES — WELL / BORING LOG

BORING B-2
PAGE 1 OF 1

JENT Stewart & Nuss
ATE DRILLED 9/9/92
OCATION Madera Co. Calif.
OLE DIAMETER 8"
OLE DEPTH 21'
'ELL DEPTH
'ELL DIAMETER
LEVATION

PROJECT NO.
LOGGED BY J. Whiting
DRILLED BY J. Watts/G. Nieves
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified Calif. Split Spoon
CASING TYPE
SLOT SIZE 0.020"
GRAVEL PACK

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW / FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
							Concrete 6"
			1			SM	SILTY SAND: discolored dark-brown to black; slightly damp; non-cohesive; with mica. Petroleum product odor
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9			SM	SILTY SAND: medium dark brown; damp; fine to medium; non-cohesive; with mica; with subangular pebbles to 50mm
			10				
			11				
			12				
		5/5	13			SM	SILTY SAND: dark brown; damp; fine grained; non-cohesive; with abundant fine to coarse mica
			14				
			15				
			16				
			17				
		5/15	18			GW	GRAVEL: gray to white; wet; fine to coarse; grained; with rounded pebbles and abundant mica; with fine to coarse silty sand
			19				
			20				
		43/50	21				

GRISANTI & Associates

WELL / BORING LOG

WELL / MW-1
BORING NO. ____
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/14/92
LOCATION Madera Co., CA
HOLE DIAMETER 8"
HOLE DEPTH 25'
WELL DEPTH 25'
WELL DIAMETER 2"
ELEVATION

PROJECT NO.
LOGGED BY H. Sugden/J. Whiting
DRILLED BY Twining
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA Split Spoon
CASING TYPE PVC Sch 40, 2"
SLOT SIZE: 0.020"
GRAVEL PACK #16 Monterey Sand

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW/FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
CONCRETE, BLANK, SLURRY, BENTONITE, SAND, SCREEN		3/4/6	2–14			SM	SILTY SAND: dark brown; slightly damp; fine to medium grained; non-cohesive; with mica
			10–14			SW	SAND: white; damp; medium grained; non-cohesive; with mica
		5/13/13	16–18			GW	GRAVEL: light brown; moist to wet; non-cohesive; rounded coarse gravel with medium to coarse silty sand; with mica Wet cuttings at ~18.5-19.0' groundwater
			20–24				
			26–40				Boring terminated at 25'

GEOTRACKER ID#:T0603900118

GRISANTI & Associates

WELL / BORING LOG

WELL / MW-3
BORING NO. ____
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/14/92
LOCATION Madera, Co., CA
HOLE DIAMETER 8"
HOLE DEPTH 25'
WELL DEPTH 25'
WELL DIAMETER 2"
ELEVATION

PROJECT NO.
LOGGED BY H. Sugden/J. Whiting
DRILLED BY Twining
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA Split Spoon
CASING TYPE PVC Sch 40, 2"
SLOT SIZE: 0.020"
GRAVEL PACK #16 Monterey Sand

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW/FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
CONCRETE; BLANK; SLURRY; Bentonite		2 3 3	2 4 6 8			SM	SILTY SAND: dark brown; damp; non-cohesive; fine grained; with mica
		4 5 6	10 12 14				
SAND; SCREEN		5 6 8	16 18 20 22 24			SW	SAND: white; moist; non-cohesive; coarse grained; with mica Wet cuttings at ~18.5-19.0' - groundwater
			26 28 30 32 34 36 38 40				Boring terminated at 25'

GEOTRACKER ID#:T0603900118

GRISANTI & Associates — WELL / BORING LOG

WELL / BORING B-1
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/9/92
LOCATION Madera County CA
HOLE DIAMETER 8"
HOLE DEPTH 19'
WELL DEPTH
WELL DIAMETER
ELEVATION

PROJECT NO.
LOGGED BY J. Whiting
DRILLED BY J. Watts/G. Nieves
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CAlif. Split Spoon
CASING TYPE
SLOT SIZE : 0.020"
GRAVEL PACK

WELL COMPLETION DETAIL	MOISTURE CONTENT	BLOW / FT.	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
			1–9			FILL	SILTY SAND: medium brown; slightly damp; medium grained; non-cohesive; with mica and coarse sand and rounded rock fragments to 75mm
		3/3	10–11			SW	SAND: white; damp to moist; medium to coarse grained; non-cohesive; with mica; slight to moderate petroleum odor
		8/9	12–15				grain size decreases: fine sand; moist
			16			GW	GRAVEL: white; moist; coarse; non-cohesive; with medium to coarse sand and mica
		34/50/50/50	17–19				wet: groundwater
			20				BORING TERMINATED AT 19'

GEOTRACKER ID#:T0603900118

GRISANTI & Associates

WELL / BORING LOG

WELL / BORING B-2
PAGE 1 OF 1

CLIENT Stewart & Nuss
DATE DRILLED 9/9/92
LOCATION Madera Co. Calif.
HOLE DIAMETER 8"
HOLE DEPTH 21'
WELL DEPTH
WELL DIAMETER
ELEVATION

PROJECT NO.
LOGGED BY J. Whiting
DRILLED BY J. Watts/G. Nieves
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified Calif. Split Spoon
CASING TYPE
SLOT SIZE: 0.020"
GRAVEL PACK

WELL COMPLETION DETAIL	MOISTURE CONTENT	(BLOW/FT.)	DEPTH (FEET)	SAMPLE	GRAPHIC	SOIL TYPE	LITHOLOGY / REMARKS
							Concrete 6"
			1			SM	SILTY SAND: discolored dark-brown to black; slightly damp; non-cohesive; with mica. Petroleum product odor
			2				
			3				
			4				
			5				
			6				
			7				
			8				
			9			SM	SILTY SAND: medium dark brown; damp; fine to medium; non-cohesive; with mica; with subangular pebbles to 50mm
			10				
			11				
			12				
		5/5	13			SM	SILTY SAND: dark brown; damp; fine grained; non-cohesive; with abundant fine to coarse mica
			14				
			15				
			16				
			17				
		5/15	18			GW	GRAVEL: gray to white; wet; fine to coarse; grained; with rounded pebbles and abundant mica; with fine to coarse silty sand
			19				
		43/50	20				
			21				BORING TERMINATED AT 21'

GEOTRACKER ID#: T0603900118

PROJECT: Bill's Kwik Stop
28274 Ave. 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 05/27/99
BY: J. Whiting

BORING NUMBER B1

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP		SOIL DESCRIPTION
0'				SC	0-5'	AUGER CUTTINGS: SANDY CLAY: Dark brown-red; moist to wet; moderately cohesive; moderately plastic; medium- to coarse-grained subrounded sand. Slight to moderate petroleum odor.
5'			700	SC	5-12'	AUGER CUTTINGS: Same as above; moist. Slight to moderate petroleum odor.
10'						
15'		9 34 45	200	ML	12'-17'	SILT: Light brown to brown-red; slightly damp; non-cohesive to slightly cemented; with minor very fine-grained subrounded sand. Medium to strong petroleum odor.
20'		8 13 22	700	ML	17'-22'	SILT: Grey and oxidized red-brown; slightly damp to moist; slightly cohesive portions slightly tomoderately cemented; with minor fine- to medium- grained mica and very minor very fine-grained subrounded sand. No odor in deepest portion. Slight to medium acrid petroleum odor in upper portion.
25'		5 12 17	50	ML	22'-32'	SILT: Gray with oxidized root traces; slightly damp; slightly cemented horizons; moderately to highly cohesive; slightly plastic; with minor fine-grained subrounded sand; with fine grained sand in upper portion of sample. Possible slight petroleum odor.
30'						

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 truck-mounted drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00-inch split spoon sampler.
NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/27/99
BY: J. Whiting

BORING NUMBER B1

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
30'		7 14 16	40	ML	22'-32' SILT: Grey with oxidized root traces; slightly damp; slightly cemented horizons; moderately to highly cohesive; slightly plastic; with minor fine-grained subrounded sand. Possible slight petroleum odor.
35'		6 6 5	35	ML	32'-37' SILT: Grey and tan; with oxidized root traces; slightly damp; slightly cohesive; with minor fine-grained subrounded sand; with minor fine-grained mica; lower portion of sample is medium-grained silty sand. No petroleum odor.
40'		9 17 26	40	ML	37'-41' SILT: Light tan and gray; slighly damp to damp; slightly cohesive; with very minor fine-grained subrounded sand. No petroleum odor.
45'					Boring terminated at 39.5 feet BSG. Sampling terminated at 41.0 feet BSG.
50'					
55'					
60'					

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00 inch split spoon sampler.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave. 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/27/99
BY: J. Whiting

BORING NUMBER B2

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP		SOIL DESCRIPTION
0'			Ambient Air 1-2 ppmv		0-4"	ASPHALT
				ML	4"-4'	AUGER CUTTINGS: SANDY SILT Gray and dark brown-red (oxidized); damp to slightly moist; slightly to moderately cohesive; slightly to moderately plastic; medium- to coarse-grained sand; with minor clay. Slight to moderate petroleum odor below 2.5 feet BSG.
5'				ML	6'-10'	SAME AS ABOVE: Clay content increases; moist; moderately plastic. Medium to strong gasoline odor.
			1500			
10'				ML	10'-12'	AUGER CUTTINGS: CLAYEY SILT: Gray and brown-red; moist; moderately cohesive; slightly to moderately plastic; with medium- to coarse-grained subrounded sand; with lithic fragments to 2 mm. Strong petroleum odor.
15'			800	ML	12'-22'	SILT: Gray and red-brown; damp to slightly moist; slightly cohesive, with cemented layers; with minor fine-grained subrounded sand; upper portion of sample is reddish-brown clayey sand. No petroleum odor.
20'		13 14 21	800	ML		SAME AS ABOVE: Slight petroleum odor.
25'		5 6 10	190	SP	22'-30'	SAND: Light tan/brown/black; fine-grained subrounded sand; slightly moist; non-cohesive; with minor dark minerals. No odor.
				ML	30-32'	SILT: Gray; slightly damp; slighlty cohesive; slightly plastic; with minor fine-grained subrounded sand; with minor clay . No odor.
30'						

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 truck-mounted drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00-inch split spoon sampler.
NOTES:

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/27/99
BY: J. Whiting

BORING NUMBER B2

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP		SOIL DESCRIPTION
30'		5 12 16	500	ML	30'-32'	SILT: Gray; sllightly damp; slightly cohesive, slightly plastic; with minor fine-grained subrounded sand; with minor clay. No petroleum odor.
35'		9 16 28	250	ML	32'-42'	SILT: Light tan; damp; slighly cohesive, very slightly plastic; with oxidized root traces; with minor cemented horizons. No petroleum odor.
40'		12 30 36	600	SP	39'-41'	SAND: White/tan; very slightly damp; fine-grained subrounded sand; noncohesive; with minor dark minerals; with cemented light gray silt layers in the upper portion. No obvious petroleum odor.
45'						Boring terminated at 39.5 feet BSG. Sampling terminated at 41.0 feet BSG.
50'						
55'						
60'						

LOCATION: See Site Plan Map
EQUIPMENT: . CME 75 drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00 inch split spoon sampler.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/28/99
BY: J. Whiting

BORING NUMBER B3

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP		SOIL DESCRIPTION
0'			Ambient Air 1-2 ppmv			
				ML	4"-4'	AUGER CUTTINGS: SANDY SILT: Red-brown; slightly damp; slightly to moderately cohesive, slightly plastic; with coarse-grained subrounded sand; with lithic fragments to 4 millimeters. Medium to strong petroleum odor.
5'				ML	4'-12'	AUGER CUTTINGS: SANDY SILT: Dark gray; moist; moderately cohesive; slightly to moderately plastic; medium- to coarse-grained subrounded sand; with clay. Moderate to strong petroleum odor.
10'			1700			AUGER CUTTINGS: SAME AS ABOVE: moist. Strong petroleum odor.
15'		12 29 50	1700	ML	12'-22'	SILT: Gray and red-brown (oxidized); slightly damp to damp; with medium to hard cemented areas; with minor fine-grained subrounded sand; with minor organic root traces. Slight to medium petroleum odor.
20'		12 14 20	400	ML		SAME AS ABOVE: No obvious odor.
25'		5 8 12	400	ML	22'-37'	SILT: Red-brown; slightly moist; slightly to moderately cohesive; slightly plastic; with cemented layers; with minor fine-grained sand; with minor clay; with oxidized root traces. Possible very slight petroleum odor.
30'						

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00-inch split spoon sampler.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/28/99
BY: J. Whiting

BORING NUMBER B3

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
30'		8 16 30	30	ML	22'-37' SILT: Red-brown; slightly moist; slightly to moderately cohesive; slightly plastic; with cemented layers; with minor fine-grained sand; with minor clay; with oxidized root traces. Possible very slight petroleum odor.
35'		10 14 20	40	ML	SILT: SAME AS ABOVE: No obvious petroleum odor.
40'		11 35 50	40	SP	37'-41' SAND: Light gray/tan/black; slightly damp; fine-grained subrounded sand. No petroleum odor.
45'					Boring terminated at 39.5 feet BSG. Sampling terminated at 41.0 feet BSG.
50'					
55'					
60'					

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 truck-mounted drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00 inch split spoon sampler.
NOTES:

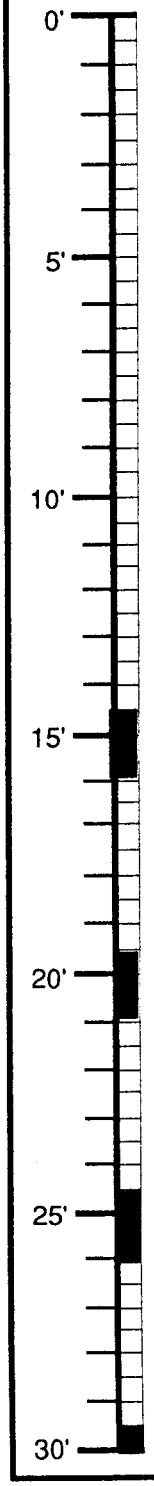
GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/27/99
BY: J. Whiting

BORING NUMBER B4



DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
			Ambient Air 1-2 ppmv		
0'-6'					AUGER CUTTINGS: SANDY SILT: Gray and red-brown (oxidized); slightly damp; slightly to moderately cohesive; slightly plastic; with coarse-grained subrounded sand; with lithic fragments to 4 millimeters; with clay. Slight petroleum odor.
6'-10'					AUGER CUTTINGS: SANDY CLAY: Dark gray; damp to moist; moderately cohesive; slightly to moderately plastic; with coarse-grained subrounded sand; with subrounded lithic fragments to 4 mm; with silt. Medium to strong petroleum odor.
			850		
10'-14.5'					AUGER CUTTINGS: SANDY CLAY : Dark gray-olive and red-brown (oxidized); moist; moderately cohesive; slightly to moderately plastic; coarse-grained subrounded sand; with subrounded lithic fragments to 3 mm. Strong petroleum odor.
14.5'-22'		8 16 50	350	ML	CLAYEY SILT: Light gray and red-brown (oxidized); slightly moist to moist; moderately cohesive, with portions moderately cemented; slightly plastic; with minor oxidized organic traces; with minor fine-grained subrounded sand. Slight petroleum odor.
		8 14 30	300	ML	SAME AS ABOVE: Slight petroleum odor.
22'-32'		6 14 21	20	SW	SILT: Light gray/light tan; damp to slightly moist; slightly cohesive, with moderately cemented layers; slightly plastic; with minor fine-grained subrounded sand; with oxidized root traces; with fine-grained subrounded sand in the middle portion of sample. Slight petroleum odor.

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00-inch split spoon sampler.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28274 Ave 13.5
Madera, California

Associated Soils Analysis
1141 Batavia Court Tulare, California 93274
(559) 688-1011 Fax (559) 688-1195

JOB NO.: 700-99
DATE: 5/28/99
BY: J. Whiting

BORING NUMBER B4

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
30'		8 16 30	20	ML	22'-32' SILT: Light gray/light tan; damp to slightly moist; slightly cohesive, with moderately cemented layers; slightly plastic; with minor fine-grained subrounded sand; with oxidized root traces. Slight petroleum odor.
					32'-35' SILT: SAME AS ABOVE: No obvious petroleum odor.
35'		10 14 20	400	SP	35'-37' SAND: Medium brown; damp; medium-grained subrounded sand; with minor silt; with minor dark mineral grains. No petroleum odor.
40'		11 35 50	200	ML	37'-41' SILT: Light gray and tan; damp; slightly cohesive; very slightly plastic; with oxidized root traces. No petroleum odor.
45'					Boring terminated at 39.5 feet BSG. Sampling terminated at 41.0 feet BSG.
50'					
55'					
60'					

LOCATION: See Site Plan Map
EQUIPMENT: CME 75 truck-mounted drill rig with 4.25-inch inside diameter hollow-stem auger and 2.00 inch split spoon sampler.
NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28742 Avenue 13.5
Madera, CA

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
(559) 688-1011 • Fax (559) 688-1195

JOB NO.: 700-99
DATE: 6/27/00
BY: J. Whiting

BORING NUMBER B5

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-3" ASPHALT 3-6" BASEROCK
5'			40		SILTY SAND/SANDY SILT: Medium-dark brown and yellow-brown; slightly damp; firm; non-plastic to low plasticity; medium-grained sand; with minor coarse-grained sand and rock fragments. Slight petroleum odor.
10'			50		SANDY SILT: Orange-brown; damp; soft to firm; non-plastic to low plasticity; medium-grained sand; with lithic fragments to 20mm; portions cemented. Slight petroleum odor.
15'			40		SILT: Light tan-brown; slightly damp; soft to hard; non-plastic or very slight plasticity; with minor lithic fragments to 4mm; with minor cemented granules to 5mm. Possible slight petroleum odor.
20'			No Reading		SILT: Light tan; slightly damp; firm; low plasticity; possible very minor very fine-grained sand; soft powdery silt. No obvious petroleum odor.
25'			20		SAND: White; slightly damp; soft; non-plastic; fine- to medium-grained; with minor fine-grained mica; with medium- to coarse-grained mineral grains and lithic fragments. No petroleum odor.
30'					Bottom of Boring Sampled to 25' BSG

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
28742 Avenue 13.5
Madera, CA

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
(559) 688-1011 • Fax (559) 688-1195

JOB NO.: 700-99
DATE: 6/27/00
BY: J. Whiting

BORING NUMBER B6

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-4" CONCRETE
					4-10" BASEROCK
5'	X X		40		SANDY SILT: Orange-brown; slightly damp; firm to hard; non-plastic to low plasticity; portions cemented; with fine- to medium-grained sand. Slight to moderate petroleum odor.
10'			750		SILTY SAND: Orange-brown; moist; soft; slightly plastic; medium- to coarse-grained sand; with silt and minor clay; with minor medium-grained mica; with lithic fragments to 15mm. Very strong petroleum odor.
15'	X X X X		No Reading		SILT: Light brown; moist; soft; non-plastic to low plasticity; soft; powdery; minor fine- to coarse-grained sand. Moderate to strong petroleum odor.
20'			900		SILT: Light tan-gray; moist to wet; soft; low plasticity; powdery. Moderate petroleum odor.
25'			25		SILT: Light tan-gray; damp to moist; soft; low plasticity; powdery; minor portions cemented hard. Moderate to strong pungent odor.
30'	X X		100		SILT: Light tan-gray; damp; soft; non-plastic to very low plasticity; powdery. Possible slight odor. Bottom of Boring Sampled to 31' BSG

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
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1141 Batavia Court • Tulare, California 93274
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JOB NO.: 700-99
DATE: 6/28/00
BY: J. Whiting

BORING NUMBER B8

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-3" ASPHALT
					3-8" BASEROCK
5'			1100		SILTY SAND/SANDY SILT: Orange-brown; soft to firm; damp; medium- to coarse-grained; with minor lithic fragments to 10mm; with minor fine-grained mica. Moderate petroleum odor.
					Terminated Boring at 9' BSG Tooling broke off and lost in boring
10'					
15'					
20'					
25'					
30'					

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

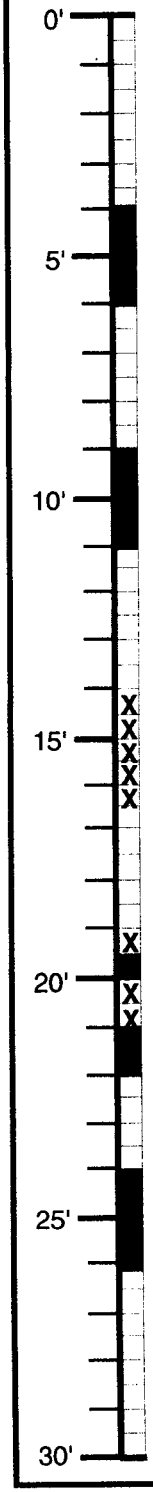
GEOTRACKER ID#:T0603993731

PROJECT: Bill's Kwik Stop
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Madera, CA

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
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JOB NO.: 700-99
DATE: 6/29/00
BY: J. Whiting

BORING NUMBER B8A



DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-3" ASPHALT
					3-8" BASEROCK
5'			1200		SILTY SAND/SANDY SILT: Orange-brown; damp; soft to firm; medium- to coarse-grained; with minor lithic fragments to 12mm. Moderate petroleum odor.
10'			1000		CLAYEY/SILTY SAND: Orange-brown; damp to moist; firm to hard; low to moderate plasticity; medium-grained; with lithic fragments and mineral grains to 15mm. Strong petroleum odor.
15'	X X X X X		No Reading		SILT: Light orange-brown/light brown; damp; soft; low plasticity; powdery; possible very minor fine-grained sand. Slight petroleum odor.
20'	X X X		No Reading		SILT: Light tan-brown/orange-brown; soft; non-plastic or low plasticity. No obvious petroleum odor.
25'			No Reading		SILT: Light tan; slightly damp to damp; soft; powdery. No obvious odor.
30'					Bottom of Boring Sampled to 26' BSG

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

GEOTRACKER ID#:T0603993731

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JOB NO.: 700-99
DATE: 6/29/00
BY: J. Whiting

BORING NUMBER B9

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-4" CONCRETE 4-8" BASEROCK
5'			50		SILTY SAND: Orange-brown; slightly damp; soft to firm; non-plastic; medium-grained sand; with minor coarse-grained lithic fragments to 5mm. Slight petroleum odor.
10'			1100		SAND/SILTY SAND: Orange-brown/red-brown, white; moist; soft; non-plastic to very slightly plastic; medium-grained; with minor coarse-grained mineral fragments and lithic fragments to 5mm; with minor fine- to medium-grained mica. Strong petroleum odor.
15'			800		SILT: Light yellow-orange; damp to moist; firm; low plasticity; with possible very minor fine-grained sand; with minor very fine-grained mica. Moderate petroleum odor.
20'			750		SILT: Gray/gray-tan; damp to wet; soft; low plasticity; powdery; with very minor fine-grained sand. Moderate petroleum odor.
25'			25		UPPER PORTION: SILT/CLAY: Wet, soupy gray material. LOWER PORTION: SILT: Light brown; damp to moist; soft; powdery; with minor fine- to medium-grained sand. Slight petroleum odor.
30'					Bottom of Boring Sampled to 26' BSG

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

GEOTRACKER ID#:T0603993731

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(559) 688-1011 • Fax (559) 688-1195

JOB NO.: 700-99
DATE: 6/28/00
BY: J. Whiting

BORING NUMBER B10

DEPTH	% REC.	BLOW COUNTS	PI METER READING	SOIL GROUP	SOIL DESCRIPTION
0'					0-4" CONCRETE 4-8" BASEROCK
5'			25		SANDY SILT/SILTY SAND: Medium brown and orange-brown; damp; soft; non-plastic; medium- to coarse-grained sand and rock fragments to 6mm. Slight to moderate petroleum odor.
10'			850		SILTY SAND/SANDY SILT: Medium orange-brown; damp to moist; medium- to coarse-grained sand; with minor coarse-grained material to 8mm. Moderate to strong petroleum odor.
15'	X X X		90		SILT: Orange-brown and green-gray; damp; firm; low plasticity; with very minor fine-grained sand and lithic fragments to 2mm. Slight petroleum odor.
20'	X X X X X X				UPPER PORTION: SILTY CLAY: Dark khaki and medium tan-brown; damp to moist; firm; moderate plasticity. Moderate petroleum odor. DEEPER PORTION: SILT: Tan, khaki-gray; damp; soft; low plasticity. Slight to moderate petroleum odor.
25'			40		SILT: Light tan-brown; damp; soft; low plasticity; soft; powdery. Slight petroleum odor.
30'					Bottom of Boring Sampled to 26' BSG

LOCATION: See Site Plan Map
EQUIPMENT: Geoprobe 6600 drill rig.

NOTES:

GEOTRACKER ID#:T0603993731

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28742 Avenue 13 1/2
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1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 07/17/02
LOGGED BY: L. Young

BORING NO.: B11

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		4 6 6	28	1.0	SM	SILTY SAND; dark brown (7.5YR, 3/4); moist; medium-grained; 60 percent sand; slightly plastic.
▽ = 10'		4 6 6	19	1.0	SM	SILTY SAND; brown (7.5YR, 4/4); saturated; coarse-grained; 85 percent sand.
15'		15 20 25	22	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/6); very moist; coarse-grained; 75 percent sand.
20'		8 10 10	23	1.5	ML	SANDY SILT; light yellowish brown (2.5Y, 6/3); very moist; fine-grained; 30 percent sand; slightly plastic.
▽ = 25'		3 4 20	23	1.5	ML	SANDY SILT; light yellowish brown (2.5Y, 6/3); saturated; very fine-grained; 15 percent sand; plastic.
30'		3 4	26	1.5	ML	SILT; pale yellow (5Y, 7/3); saturated; very fine-grained; plastic.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

GEOTRACKER ID#:T0603993731

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28742 Avenue 13 1/2
Madera, California

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1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 07/17/02
LOGGED BY: L. Young

BORING NO.: B11

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		6				
		4 10 15	24	1.5	SP	POORLY-GRADED SAND; light olive gray (5Y, 6/2); moist; fine-grained.
35'						
		10 22 30	16	1.5	SP	POORLY-GRADED SAND; light gray (5Y, 7/2); moist; very fine-grained.
40'						
		5 12 25	12	1.5	ML	SANDY SILT; light gray (5Y, 7/2); moist; very fine-grained; 15 percent sand; plastic.
45'						
50'						
55'						
60'						

Bottom of boring at approximately 45 feet BSG.

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/03 • STATE OF CALIFORNIA

Prepared under the direct supervision of:

Kenneth W. Rank, Registered Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

GEOTRACKER ID#:T0603993731

Bill's Kwik Stop
28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
Phone: (559) 688-1011 • Fax: (559) 688-1195

PROJECT: 700-99
DATE: 07/17/02
LOGGED BY: L. Young

BORING NO.: B12

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		18 30 30	15	1.0	SM	SILTY SAND; dark yellowish brown (10YR, 4/6); moist; medium-grained; 70 percent sand.
∇ = 10'		8 15 35	16	1.0	SW	WELL-GRADED SAND; brown (7.5YR, 4/4); very moist; coarse-grained; 95 percent sand.
15'		18 33 35	10	1.5	SM	SILTY SAND WITH GRAVEL; strong brown (7.5YR, 4/6); very moist; medium-grained; 60 percent sand.
20'		8 23 34	10	1.5	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained; 95 percent sand.
25'		7 8 17	13	1.5	SP	POORLY-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; fine-grained.
30'		7 11	14	1.0	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

GEOTRACKER ID#:T0603993731

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PROJECT: 700-99
DATE: 07/17/02
LOGGED BY: L. Young

BORING NO.: B12

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		22				
35'		11 22 27	12	1.5	SW	WELL-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; medium-grained.
40'		20 32 32	6	1.0	ML	SANDY SILT; light olive brown (2.5Y, 5/3); moist; very fine-grained; 70 percent sand; slightly plastic.
45'		9 13 33	8	1.5	SP	POORLY-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; very fine-grained; 95 percent sand.
50'		20 20 47	8	1.0	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); moist; medium-grained; 70 percent sand; slightly plastic.
55'		20 20 27	14	1.0	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained.
60'		18 19	22	1.0	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; fine-grained.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
DATE: 07/17/02
LOGGED BY: L. Young

BORING NO.: B12

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		25				
		12	20	1.0	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); moist; fine-grained; 75 percent sand; slightly plastic.
65'		20				
		30				
						Bottom of boring at approximately 65 feet BSG.
70'						
75'						
80'						
85'						
90'						

Prepared under the direct supervision of:

Kenneth W. Rank, Registered Geologist No. 6770

REGISTERED GEOLOGIST
KENNETH W. RANK
No. 6770
EXP. 3/31/03
STATE OF CALIFORNIA

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 07/16/02
LOGGED BY: L. Young

BORING NO.: B13

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		5 12 16	17	1.0	SM	SILTY SAND; dark yellowish brown (10YR, 4/6); moist; coarse-grained; 80 percent sand.
10'		5 10 15	30	1.0	SM	SILTY SAND; brown (10YR, 5/3); moist; coarse-grained; 85 percent sand.
15'		10 25 25	NA	0.5		Recovered 6 inch laboratory sample. No soil to classify.
20'		3 4 5	300	0.5	SM	SILTY SAND; brown (10YR, 5/3); low moisture; coarse-grained; 70 percent sand.
▽ =						
25'		NA	95	1.0	SM	SILTY SAND; brown (10YR, 5/3); very moist; coarse-grained; 60 percent sand; slightly plastic.
30'		4 12	78	1.5	SW	WELL-GRADED SAND; light gray (2.5Y, 7/2); moist; fine-grained.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
DATE: 07/16/02
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BORING NO.: B13

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		15				
35'		11 22 30	30	1.5	SW	WELL-GRADED SAND; pale yellow (5Y, 7/3); moist; fine-grained.
40'		8 30 40	42	1.5	SW	WELL-GRADED SAND; pale yellow (5Y, 7/3); moist; very fine-grained; 95 percent sand.
45'		8 12 15	24	1.5	SW	WELL-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; fine-grained.
50'		10 25 25	26	1.5	SW	WELL-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; fine-grained.
55'		10 15 15	27	1.5	SW	WELL-GRADED SAND; light gray (2.5Y, 7/2); moist; very fine-grained; 95 percent sand.
60'		12 20	20	1.5	SP	POORLY-GRADED SAND; light gray (10YR, 7/2); moist; very fine-grained; 95 percent sand.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
DATE: 07/16/02
LOGGED BY: L. Young

BORING NO.: B13

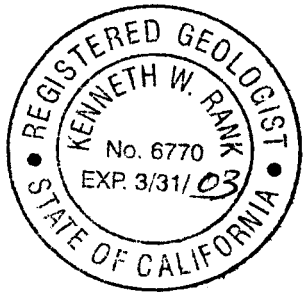
DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		20				
		12	28	1.5	SP	POORLY-GRADED SAND; pale yellow (5Y, 7/3); moist; very fine-grained.
65'		30				
		30				
70'						
75'						
80'						
85'						
90'						

Bottom of boring at approximately 65 feet BSG.

Prepared under the direct supervision of:



Kenneth W. Rank, Registered Geologist No. 6770



LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
DATE: 07/12/02
LOGGED BY: L. Young

BORING NO.: B14

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		24 45 50	42	1.0	SM	SILTY SAND; brown (10YR, 4/3); low moisture; medium-grained; 80 percent sand; slightly cemented.
∇						
10'		5 6 7	280	1.5	SM	SILTY SAND; brown (10YR, 5/3); very moist; medium-grained; 70 percent sand.
15'		4 35 50	120	1.0	ML	SANDY SILT; yellowish brown (10YR, 5/4); moist; fine-grained; 40 percent sand; slightly plastic.
20'		8 18 25	55	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/3); moist; very fine-grained; 95 percent sand.
25'		8 15 20	57	1.5	SP	POORLY-GRADED SAND; light gray (10YR, 7/2); moist; fine-grained.
∇						
30'		10 15	40	1.5	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; very fine-grained; 95 percent sand.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

GEOTRACKER ID#:T0603993731

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BORING NO.: B14

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		15				
		5 15 20	40	1.0	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; very fine-grained; 95 percent sand.
35'						
		10 20 30	45	1.0	SP	POORLY-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; fine-grained; 95 percent sand.
40'						
		7 20 20	43	1.0	SP	POORLY-GRADED SAND; light brownish gray (2.5Y, 6/2); moist; medium-grained.
45'						
		8 18 18	32	1.5	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); moist; fine-grained; 85 percent sand; slightly plastic.
50'						
		7 7 15	32	1.0	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; medium-grained.
55'						
		8 20	30	1.5	SP	POORLY-GRADED SAND; light gray (10YR, 7/2); moist; fine-grained.
60'						

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
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LOGGED BY: L. Young

BORING NO.: B14

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		20				
		7 18 25	28	1.5	SP	POORLY-GRADED SAND; light gray (10YR, 7/2); moist; fine-grained.
65'						
		7 11 15	26	1.0	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; fine-grained; 95 percent sand.
70'						
		5 7 15	26	1.0	SM	SILTY SAND; light gray (2.5Y, 7/2); moist; fine-grained; 85 percent sand; slightly plastic.
75'						
		NA	26	1.0	SW	WELL-GRADED SAND; pale yellow (2.5Y, 7/3); moist; medium-grained; 95 percent sand.
80'						
						Bottom of boring at approximately 65 feet BSG.
85'						
90'						

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/03 • STATE OF CALIFORNIA

Prepared under the direct supervision of:

Kenneth W. Rank

Kenneth W. Rank, Registered Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

GEOTRACKER ID#:T0603993731

Bill's Kwik Stop
28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 7/10-11/02
LOGGED BY: L. Young

BORING NO.: B15

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		7 23 25	112	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/4); moist; coarse-grained; 80 percent sand.
∇						
10'		7 15 20	320	1.5	SM	SILTY SAND; brown (10YR, 5/3); very moist; coarse-grained; 85 percent sand.
15'		20 30 50	260	1.5	SW	WELL-GRADED SAND; yellowish brown (10YR, 5/6); very moist; coarse-grained; 95 percent sand.
20'		16 19 24	330	1.5	SM	SILTY SAND; pale olive (5Y, 6/3); moist; medium-grained; 70 percent sand.
25'		11 11 16	400	1.5	ML	SANDY SILT; light yellowish brown (2.5Y, 6/3); moist; very fine-grained; 40 percent sand; slightly plastic.
30'		8 12	350	1.5	SM	SILTY SAND; pale olive (5Y, 6/3); moist; very fine-grained; 70 percent sand; slightly plastic.

LOCATION: See Site Plan
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BORING NO.: B15

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		14				
		11 22 37	390	1.5	SW	WELL-GRADED SAND; pale yellow (2.5Y, 7/3); moist; very fine-grained; 95 percent sand.
35'						
		10 12 23	500	1.5	SM	SILTY SAND; light brownish gray (2.5Y, 6/2); moist; very fine-grained; 60 percent sand; slightly plastic.
40'						
		10 11 11	380	1.5	SW	WELL-GRADED SAND; light yellowish brown (2.5Y, 6/4); moist; very fine-grained; 95 percent sand.
45'						
		10 20 35	440	1.0	SP	POORLY-GRADED SAND; gray (5Y, 6/1); moist; medium-grained.
50'						
		5 12 20	30	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/4); moist; fine-grained; last sample collected on 7-10-02.
55'						
		10 20	20	1.5	SP	POORLY-GRADED SAND; pinkish white (7.5YR, 8/2); moist; fine-grained; 95 percent sand; begin sample collection on 7-11-02.
60'						

LOCATION: See Site Plan
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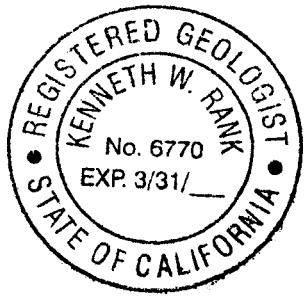
BORING NO.: B15

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		25				
65'		6 15 15	55	1.5	SP	POORLY-GRADED SAND; very pale brown (10YR, 7/3); moist; fine-grained; 95 percent sand.
						Bottom of boring at approximately 65 feet BSG.
70'						
75'						
80'						
85'						
90'						

Prepared under the direct supervision of:



Kenneth W. Rank, Registered Geologist No. 6770



LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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PROJECT: 700-99
DATE: 7/11&16/02
LOGGED BY: L. Young

BORING NO.: B16

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		8 12 10	45	1.0	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; medium-grained; 70 percent sand.
∇ =						
10'		4 7 7	340	1.5	SW	WELL-GRADED SAND; brown (10YR, 5/3); very moist; coarse-grained; 95 percent sand.
15'		6 10 10	164	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; medium-grained; 85 percent sand.
20'		10 20 25	66	1.5	ML	SANDY SILT; light gray (2.5Y, 7/2); moist; very fine-grained; 40 percent sand; slightly plastic.
∇ =						
25'		NA	NA	0.0		No recovery. Freestanding groundwater, sandy material. All laboratory samples below 25 feet BSG considered suspect due to inflowing water from perched watertable.
30'		NA	45	0.5	ML	SANDY SILT; pale olive (5Y, 6/3); saturated; very fine-grained; 30 percent sand; slightly cemented.

LOCATION: See Site Plan
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PROJECT: 700-99
DATE: 7/11&16/02
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BORING NO.: B16

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'						
35'		10 20 22	47	1.0	SW	WELL-GRADED SAND; light yellowish brown (2.5Y, 6/3); very moist; medium-grained; 95 percent sand.
40'		12 20 25	50	1.5	ML	SANDY SILT; pale olive (5Y, 6/3); low moisture; very fine-grained; 40 percent sand.
45'		8 20 25	45	1.5	ML	SANDY SILT; pale olive (5Y, 6/3); low moisture; very fine-grained; 40 percent sand; slightly plastic; last sample collected on 7-11-02.
50'		5 7 10	40	1.5	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); saturated; medium-grained; 80 percent sand; begin sample collection on 7-16-02.
55'		8 15 15	26	1.5	SW	WELL-GRADED SAND; light gray (2.5Y, 7/2); moist; medium-grained.
60'		10 15	23	0.0	SW	WELL-GRADED SAND; light gray (2.5Y, 7/2); moist; very fine-grained; 95 percent sand.

LOCATION: See Site Plan
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BORING NO.: B16

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		25				
		12	24	1.5	SW	WELL-GRADED SAND; pale yellow (2.5Y, 7/3); moist; medium-grained.
65'		17				
		24				
						Bottom of boring at approximately 65 feet BSG.
70'						
75'						
80'						
85'						
90'						

Prepared under the direct supervision of:

Kenneth W. Rank, Registered Geologist No. 6770

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/03 • STATE OF CALIFORNIA

LOCATION: See Site Plan
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DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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Bill's Kwik Stop
28742 Avenue 13 1/2
Madera, California

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1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 7/10&16/02
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BORING NO.: B17

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Hand augered to 4 feet BSG.
5'		25 55	420	1.0	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; medium-grained; 70 percent sand.
∇ =						
10'		10 18 25	320	1.5	SW	WELL-GRADED SAND; dark yellowish brown (10YR, 4/4); very moist; coarse-grained; 95 percent sand.
15'		47 50	220	1.0	SM	SILTY SAND; dark yellowish brown (10YR, 4/4); moist; coarse-grained; 80 percent sand.
20'		19 21 33	360	1.5	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); low moisture; fine-grained; 50 percent sand.
25'		11 12 28	160	1.5	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained.
30'		16 16	50	1.5	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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BORING NO.: B17

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		24				
		16 14 17	90	1.5	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; fine-grained; 95 percent sand.
35'						
		15 15 23	80	1.5	ML	SANDY SILT; pale yellow (5Y, 7/3); moist; very fine-grained; 40 percent sand; slightly plastic.
40'						
		18 19 22	50	1.5	ML	SANDY SILT; light gray (5Y, 7/2); moist; very fine-grained; 40 percent sand; slightly plastic; slightly cemented. Last sample collected on 7-10-02.
45'						
		5 15 20	280	1.5	ML	SANDY SILT; light brownish gray (2.5Y, 6/2); very moist; very fine-grained; 40 percent sand; slightly plastic; begin sample collection on 7-16-02.
50'						
		5 12 20	60	1.0	SM	SILTY SAND; pale yellow (5Y, 7/3); moist; very fine-grained; 50 percent sand; slightly plastic.
55'						
		5 15	24	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/3); moist; fine-grained; 95 percent sand.
60'						

LOCATION: See Site Plan
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PROJECT: 700-99
DATE: 7/10&16/02
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BORING NO.: B17

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
60'		15				
		7	26	1.5	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; fine-grained.
65'		12				
		20				
						Bottom of boring at approximately 65 feet BSG.
70'						
75'						
80'						
85'						
90'						

Prepared under the direct supervision of:

Kenneth W. Rank, Registered Geologist No. 6770

REGISTERED GEOLOGIST • KENNETH W. RANK No. 6770 EXP. 3/31/03 • STATE OF CALIFORNIA

LOCATION: See Site Plan
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DRILLERS: Scott TenBroeck, driller; Scotty TenBroeck, driller's helper

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Bill's Kwik Stop
28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 10/14/03
LOGGED BY: L. Young

BORING NO.: MW1

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 7 inches concrete.
						Hand augered to 4 feet BSG.
5'						Not sampled.
10'						
15'						
20'						
25'						
30'						

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: David Guinn, driller; Elias Flores, driller's helper

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28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 10/14/03
LOGGED BY: L. Young

BORING NO.: MW1

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'						
35'						
40'						
45'						
50'						
55'						
60'						

Bottom of boring at approximately 33 feet BSG.

Prepared under the direct supervision of:

REGISTERED GEOLOGIST
KENNETH W. RANK
No. 6770
EXP. 3/31/05
STATE OF CALIFORNIA

Kenneth W. Rank, Registered Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: David Guinn, driller; Elias Flores, driller's helper

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28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 10/13/03
LOGGED BY: L. Young

BORING NO.: MW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 7 inches concrete.
						Hand augered to 4 feet BSG.
		12 14 15	18	1.5	SW	WELL-GRADED SAND; light olive brown (2.5Y, 5/4); moist; medium-grained; slightly cemented; very slight petroleum odor.
5'		9 10 12	26	1.5	SM	SILTY SAND; dark yellowish brown (10YR, 4/4); moist; medium-grained; 85 percent sand; very slight petroleum odor.
		8 11 14	174	1.5	SW	WELL-GRADED SAND; light olive brown (2.5Y, 5/4); moist; medium-grained; moderate petroleum odor.
		8 12 14	> 2000	1.5	SW	WELL-GRADED SAND; dark yellowish brown (10YR, 4/4); very moist; coarse-grained; very strong petroleum odor.
10'		11 12 16	951	1.5	SW	WELL-GRADED SAND; dark yellowish brown (10YR, 4/6); saturated; coarse-grained; very strong petroleum odor.
		8 15 22	430	1.5	SW	WELL-GRADED SAND; yellowish brown (10YR, 5/6); moist; medium-grained; strong petroleum odor.
		8 12 16	130	1.5	SM	SILTY SAND; brownish yellow (10YR, 6/6); low moisture; fine-grained; 60 percent sand; very slight petroleum odor.
15'		9 12 16	161	1.5		
		10 12 16	224	1.5	SM	SILTY SAND; light olive brown (2.5Y, 5/4); moist; fine-grained; 70 percent sand; moderate petroleum odor.
		8 14 24	104	1.5	SM	SILTY SAND; light olive brown (2.5Y, 5/4); moist; fine-grained; 60 percent sand; very slight petroleum odor.
		9 14 24	178	1.5	SM	SILTY SAND; light olive brown (2.5Y, 5/4); moist; fine-grained; 70 percent sand; slight petroleum odor.
20'		9 18 26	57	1.5	ML	SILT; light olive gray (5Y, 6/2); low moisture; slightly plastic; with 20% clay.
		9 12 24	12	1.5	SM	SILTY SAND; light yellowish brown (2.5Y, 6/3); moist; very fine-grained; 60 percent sand; very slight petroleum odor.
		10 14 18	32	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; medium-grained; 85 percent sand; no petroleum odor.
25'		12 30 50	67	1.5	ML	SILT; pale yellow (5Y, 7/3); low moisture; slightly plastic; with 20% clay; very slight petroleum odor.
		12 15 18	6	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/3); moist; fine-grained; no petroleum odor.
		12 18 22	3	1.5	ML	SANDY SILT; light gray (2.5Y, 7/2); moist; very fine-grained; 40 percent sand; no petroleum odor.
30'		7	10	1.5	ML	SILT; pale olive (5Y, 6/3); low moisture; very slightly plastic; with 10% clay; no petroleum odor.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: David Guinn, driller; Elias Flores, driller's helper

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Madera, California

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PROJECT: 700-99
DATE: 10/13/03
LOGGED BY: L. Young

BORING NO.: MW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
30'		14 25			SW	WELL-GRADED SAND; pale olive (5Y, 6/3); very moist; very fine-grained; no petroleum odor.
		18 24	7	1.5	ML	SILT; light yellowish brown (2.5Y, 6/3); low moisture; slightly plastic; with 20% clay; no petroleum odor.
		26 10 18	8	1.5	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); very moist; fine-grained; no petroleum odor.
		20 12 18	1	1.5	ML	SILT; pale yellow (5Y, 8/2); low moisture; no petroleum odor.
35'		22 15 25	1	1.5	SM	SILTY SAND; light gray (2.5Y, 7/2); moist; very fine-grained; 85 percent sand; no petroleum odor.
		30 12 30	1	1.5	ML	SILT; pale olive (5Y, 6/3); low moisture; slightly plastic; with 20% clay; no petroleum odor.
		28 20 25	1	1.5	SP	POORLY-GRADED SAND; pale olive (5Y, 6/3); moist; very fine-grained; no petroleum odor. Last sample collected 10-13-03.
40'		28				
		24 30	1	1.5	SP	POORLY-GRADED SAND; light olive gray (5Y, 6/2); very moist; fine-grained; no petroleum odor. First sample collected 10-14-03.
		47 24 30	5	1.5	ML	SILT; light olive gray (5Y, 6/2); low moisture; very slightly plastic; with 10% clay; no petroleum odor.
		50 8 14	6	1.5	SM	SILTY SAND; light olive gray (5Y, 6/2); moist; very fine-grained; 70 percent sand; no petroleum odor.
45'		20 15 30	73	1.5	ML	SILT; pale olive (5Y, 6/3); low moisture; slightly plastic; with 15% clay; slight petroleum odor.
		50 18 30	7	1.5	SP	POORLY-GRADED SAND; pale olive (5Y, 6/3); moist; fine-grained; no petroleum odor.
		40 18 30	20	1.5	SW	WELL-GRADED SAND; pale yellow (5Y, 7/3); moist; fine-grained; very slight petroleum odor.
50'		44 20 35	76	1.5	SW	WELL-GRADED SAND; light olive gray (5Y, 6/2); moist; medium-grained; very slight petroleum odor.
		50 10 18	2	1.5	ML	SILT; light gray (2.5Y, 7/2); low moisture; slightly plastic; with 20% clay; no petroleum odor.
		20 8 10	2	1.5	SM	SILTY SAND; pale yellow (5Y, 7/3); moist; very fine-grained; 70 percent sand; no petroleum odor.
		12 14 15	2	1.5	SW	WELL-GRADED SAND; pale yellow (5Y, 7/3); moist; fine-grained; no petroleum odor.
55'		18 14 22	2	1.5	ML	SILT; light gray (2.5Y, 7/2); low moisture; very fine-grained; slightly plastic; with 20% clay; no petroleum odor.
		28			SW	WELL-GRADED SAND; pale yellow (2.5Y, 7/3); moist; fine-grained; no petroleum odor.
60'						Bottom of boring at 58.15 feet BSG.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: David Guinn, driller; Elias Flores, driller's helper

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PROJECT: 700-99
DATE: 10/13/03
LOGGED BY: L. Young

BORING NO.: MW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION

60'
65'
70'
75'
80'
85'
90'

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LOCATION: See Site Plan
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PROJECT: 700-99
DATE: 07/26/05
LOGGED BY: L. Young

BORING NO.: PW1

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 3 inches asphalt.
						Hand-augered to 4 feet BSG.
5'		24 21 20	15	1.5	SW	WELL-GRADED SAND; light olive brown (2.5Y, 5/4); moist; fine-grained; no petroleum odor.
10'		15 18 30	39	1.5	SM	SILTY SAND; light olive brown (2.5Y, 5/3); very moist; medium-grained; 85 percent sand; very slight petroleum odor.
15'		15 50	54	1.0	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; medium-grained; 85 percent sand; very slight petroleum odor.
20'		5 20 30	4	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/3); moist; very fine-grained; no petroleum odor.
25'						Bottom of boring at 23 feet BSG.
30'						Prepared under the direct supervision of:

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

Kenneth W. Rank, Professional Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Elias Flores, driller's helper

GEOTRACKER ID#:T0603993731

Bill's Kwik Stop
28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
Phone: (559) 688-1011 • Fax: (559) 688-1195

PROJECT: 700-99
DATE: 07/28/05
LOGGED BY: L. Young

BORING NO.: PW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 6 inches cement.
						Hand-augered to 4 feet BSG.
5'		20 40 35	36	1.5	SM	SILTY SAND; brown (10YR, 5/3); moist; medium-grained; 85 percent sand; very slight petroleum odor.
10'		5 8 8	389	1.5	SM	SILTY SAND; olive brown (2.5Y, 4/3); saturated; medium-grained; 85 percent sand; moderate petroleum odor.
15'		5 50	238	1.0	ML	SANDY SILT; light yellowish brown (2.5Y, 6/3); moist; 40 percent sand; slight petroleum odor.
20'		5 12 16	21	1.5	SP	POORLY-GRADED SAND; pale yellow (2.5Y, 7/3); moist; fine-grained; no petroleum odor.
25'						Bottom of boring at 23 feet BSG.
						Prepared under the direct supervision of:
30'						Kenneth W. Rank, Professional Geologist No. 6770

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Danny Morales, driller's helper

GEOTRACKER ID#:T0603993731

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Madera, California

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PROJECT: 700-99
DATE: 07/27/05
LOGGED BY: L. Young

BORING NO.: VEW1

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 6 inches cement.
						Hand-augered to 4 feet BSG.
5'		20 10 5	246	1.5	SM	SILTY SAND; light olive brown (2.5Y, 5/6); moist; fine-grained; 85 percent sand; moderate petroleum odor.
10'		8 14 18	537	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/4); very moist; coarse-grained; 85 percent sand; very strong petroleum odor.
15'		5 30 50	510	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/4); moist; fine-grained; 85 percent sand; strong petroleum odor.
20'						Bottom of boring at 16.15 feet BSG.
						Prepared under the direct supervision of:
25'						Kenneth W. Rank, Professional Geologist No. 6770
30'						

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Thomas Smith, driller's helper

GEOTRACKER ID#:T0603993731

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Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
Phone: (559) 688-1011 • Fax: (559) 688-1195

PROJECT: 700-99
DATE: 07/27/05
LOGGED BY: L. Young

BORING NO.: VEW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 6 inches cement.
						Hand-augered to 4 feet BSG.
5'		4 2 2	228	1.5	SM	SILTY SAND; brown (10YR, 5/3); saturated; coarse-grained; 70 percent sand; moderate petroleum odor.
10'		8 10 14	726	1.5	SW	WELL-GRADED SAND; yellowish brown (10YR, 5/4); saturated; coarse-grained; very strong petroleum odor.
15'		15 50	544	1.0	SM	SILTY SAND; brown (10YR, 5/3); very moist; medium-grained; 80 percent sand; strong petroleum odor.
20'		10 18 25	311	1.5	SM	SILTY SAND; light olive gray (5Y, 6/2); moist; fine-grained; 80 percent sand; moderate petroleum odor.
25'		5 8 12	214	1.5	SP	POORLY-GRADED SAND; light gray (2.5Y, 7/2); moist; very fine-grained; slight petroleum odor.
						Bottom of boring at 26.16 feet BSG.
30'						

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Thomas Smith, driller's helper

GEOTRACKER ID#:T0603993731

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Madera, California

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1141 Batavia Court • Tulare, California 93274
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PROJECT: 700-99
DATE: 07/27/05
LOGGED BY: L. Young

BORING NO.: VEW2

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION

30'
35'
40'
45'
50'
55'
60'

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

Prepared under the direct supervision of:

Kenneth W. Rank

Kenneth W. Rank, Professional Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Thomas Smith, driller's helper

GEOTRACKER ID#:T0603993731

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PROJECT: 700-99
DATE: 07/27/05
LOGGED BY: L. Young

BORING NO.: VEW3

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 6 inches cement.
						Hand-augered to 4 feet BSG.
5'		15 20 35	58	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/4); moist; medium-grained; 85 percent sand; slight petroleum odor.
10'		8 12 18	411	1.5	SM	SILTY SAND; brown (10YR, 5/3); saturated; coarse-grained; 85 percent sand; strong petroleum odor.
15'		10 40 50	244	1.5	SM	SILTY SAND; light yellowish brown (10YR, 6/4); moist; fine-grained; 85 percent sand; strong petroleum odor.
20'						Bottom of boring at 15.83 feet BSG.
						Prepared under the direct supervision of:
25'						Kenneth W. Rank, Professional Geologist No. 6770
30'						

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Thomas Smith, driller's helper

GEOTRACKER ID#:T0603993731

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Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
Phone: (559) 688-1011 • Fax: (559) 688-1195

PROJECT: 700-99
DATE: 07/28/05
LOGGED BY: L. Young

BORING NO.: VEW4

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION
0'						Top 6 inches cement.
						Hand-augered to 4 feet BSG.
5'		8 10 15	102	1.5	SM	SILTY SAND; olive brown (2.5Y, 4/3); very moist; medium-grained; 85 percent sand; slight petroleum odor.
10'		6 14 18	772	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/4); saturated; coarse-grained; 85 percent sand; very strong petroleum odor.
15'		5 30 45	519	1.5	SM	SILTY SAND; yellowish brown (10YR, 5/6); moist; fine-grained; 60 percent sand; moderate petroleum odor.
20'		5 15 20	656	1.5	SM	SILTY SAND; light yellowish brown (2.5Y, 6/4); moist; very fine-grained; 55 percent sand; strong petroleum odor.
25'		5 15 20	213	1.5	SP	POORLY-GRADED SAND; light yellowish brown (2.5Y, 6/3); moist; fine-grained; slight petroleum odor.
30'						Bottom of boring at 26.25 feet BSG.

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Danny Morales, driller's helper

GEOTRACKER ID#:T0603993731

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28742 Avenue 13 1/2
Madera, California

Associated Soils Analysis, Inc.
1141 Batavia Court • Tulare, California 93274
Phone: (559) 688-1011 • Fax: (559) 688-1195

PROJECT: 700-99
DATE: 07/28/05
LOGGED BY: L. Young

BORING NO.: VEW4

DEPTH	SAMPLE	BLOW COUNTS	PID READING	REC. IN FEET	SOIL GROUP	SOIL DESCRIPTION

30'
35'
40'
45'
50'
55'
60'

REGISTERED GEOLOGIST • KENNETH W. RANK • No. 6770 EXP. 3/31/07 • STATE OF CALIFORNIA

Prepared under the direct supervision of:

Kenneth W. Rank

Kenneth W. Rank, Professional Geologist No. 6770

LOCATION: See Site Plan
EQUIPMENT: Acker Soil Max truck-mounted drill rig equipped with 4.25-inch hollow-stem augers.
DRILLERS: Scott TenBroeck, driller; Danny Morales, driller's helper

GEOTRACKER ID#:T0603993731

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-8

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-1 Sheet 1 of 3

Boring Location: See Site Plan		Started: 3-13-92	Finished: 3-13-92
Drilled By: SB&S Drilling		Elevation: Not Determined	
Drilling Equipment: Mobile B-57		Borehole Diameter: 6 Inch O.D.	
Sampling Equipment: LRS		Auger Type: HSA	
Drilling Fluid: None		Completed Depth: 55 Feet BGS	
Backfill Material: Cement Grout		Water Depth: Not Encountered	
Logged By: MD	Checked By: GWK	Casing Type/Dia: None	

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
5	SAND; Poorly Graded, very fine to fine grained, very wet, micaceous, reddish brown. (SP)				
	Containing abundant gravel of uniform size in drill cuttings.				
20	Poorly graded, moist. (SP)	5 25 20		9700	

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well _____ Boring/Well Number: B-1 Sheet 2 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
	Becoming silty, grayish.				
25--	SILT; Sandy, very fine grained, moist, hard, grayish. (ML)	8 25 40		8500	
30--	Becoming clayey, moist, hard, well indurated to friable, greenish gray.	8 12 22		9500	Contains oxidizing organic matter.
35--	SAND; Very Poorly Graded, medium grained moist, medium dense, dark grey. (SP)	4 6 8		3882	Salt and Pepper appearance.
40--	CLAY; high plasticity, very moist, very stiff, greenish gray. (CH)	4 6 10		8196	Sticky. Containing oxidized organic matter.
45--	SAND; Very Poorly Graded, medium grained moist, medium dense, micaceous, greenish gray. (SP)	9 14 15		58	

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-1 Sheet 3 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
50--	Becoming fine to coarse grained, well graded, moist, medium dense, micaceous, dark brown. (SW)	4 7 7		3	
	Becoming poorly graded, very fine to fine grained, moist. (SP)	4 6 8		6	
55--	Bottom of Boring at 55 Feet Below Ground Surface				
60--					
65--					
70--					
75--					

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-2 Sheet 1 of 3

Boring Location: See Site Plan		Started: 3-13-92	Finished: 3-13-92
Drilled By: SB&S Drilling		Elevation: Not Determined	
Drilling Equipment: Mobile B-57		Borehole Diameter: 6 Inch O.D.	
Sampling Equipment: LRS		Auger Type: HSA	
Drilling Fluid: None		Completed Depth: 55 Feet BGS	
Backfill Material: Cement Grout		Water Depth: Not Encountered	
Logged By: MD	Checked By: GWK	Casing Type/Dia: None	

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
-					
-					
-					
-	SAND; Poorly Graded, fine to medium grained, moist, micaceous, reddish				
5--	brown. (SP)				
-					
-					
-					
-					
10--	Becoming very moist.				
-					
-					
-					
-					
15--	Poorly graded, coarse grained, very moist to wet.				
-					
-					
-					
-					
20--	Becoming very fine to fine grained moist, loose to well indurated, light brown. (SP)	22 28 36		1062	
-					

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well _____ Boring/Well Number: B-2 Sheet 2 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
25--	Becoming very fine grained, poorly graded, dense, slightly moist, grayish.	6 19 22		6451	
30--	Very fine grained, silty, wet, low plasticity.	12 22 25		1944	Contains oxidizing organic matter.
35--	Becoming fine to medium grained, very poorly graded, medium dense, very moist, dark gray.	4 6 8		3188	
40--	CLAY; Silty, medium plasticity, very moist, very stiff, greenish gray. (CL) Increasing sand content.	4 6 18		16	
45--	SAND; Poorly Graded, very fine to fine grained, moist, loose, yellowish brown. (SP)	3 4 8		19	

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-2 Sheet 3 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
50--	Becoming fine to medium grained, poorly graded, loose, dark brown.	3 7 4		5	
-					
-					
-					
-	Fine grained, poorly graded, dark brown.	6 6 9		3	
55--	Bottom of Boring at 55 Feet Below Site Grade				
-					
-					
-					
-					
60--					
-					
-					
-					
-					
65--					
-					
-					
-					
-					
70--					
-					
-					
-					
-					
75--					
-					
-					

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-3 Sheet 1 of 3

Boring Location: See Site Plan		Started: 3-13-92	Finished: 3-13-92
Drilled By: SB&S Drilling		Elevation: Not Determined	
Drilling Equipment: Mobile B-57		Borehole Diameter: 6 Inch O.D.	
Sampling Equipment: LRS		Auger Type: HSA	
Drilling Fluid: None		Completed Depth: 55 Feet BGS	
Backfill Material: Cement Grout		Water Depth: Not Encountered	
Logged By: MD	Checked By: GWK	Casing Type/Dia: None	

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
-	4 Inch Thick Asphalt				
-					
-					
-	SAND; Silty, fine to coarse grained, well graded, slightly moist,				
5--	light reddish brown. (ML)				
-					
-					
-					
-					
10--	Becoming stiff, moderately indurated.				
-					
-					
-					
-					
15--	Loose, dry.				
-					
-					
-	Gravelly.				
-		6			
20--	Becoming poorly graded, very fine grained, slightly moist, dense,	15		1020	
-	greenish brown.	20			

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-3 Sheet 2 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
25--	Becoming very silty, light grey.	11 15 25		3872	
30--	SILT; Sandy, very fine grained, moist, hard, dark gray. (ML)	13 32 40		889	Slightly shaley.
35--	SAND; Very Poorly Graded, fine to medium grained, moist, loose, micaceous, grayish brown. (SP)	6 6 6		760	
40--	Becoming very fine to fine grained, moist, brown.	6 9 15		269	
45--	Poorly graded, moist, very micaceous, light greenish brown.	6 9 11		14	

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: JACKIE SIMPSON PROPERTY Job No.: 92-0038.01

Soil Boring X Monitoring Well ____ Boring/Well Number: B-3 Sheet 3 of 3

Dpth Feet	Description	Blows per 6 in.	Samp No	OVM ppm	Remarks
50	Becoming fine to coarse grained, well graded, moist, medium dense, micaceous, light greenish brown. (SW)	6 8 9		2	
	Very fine to fine grained, poorly graded, moist, medium dense, light greenish brown. (SP)	4 6 5		3	
55	Bottom of Boring at 55 Feet Below Site Grade				
60					
65					
70					
75					

TECHNICON ENGINEERING SERVICES, INC.

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: BC-1

PROJECT NUMBER: 94-16-12
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Co.
DRILLING COMPANY: CVT
RIG TYPE & NUMBER: CME 45
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Foggy
FIELD PARTY:
GEOLOGIST: W.Sheehs
DATE BEGUN: 12/2/97 DATE COMPLETED:

FIELD BOOK NO.:
TOTAL DEPTH: 31.5'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD-While Drilling AB-After Boring		
Depth(ft)	00	00
Time	00	00
Date:	12/2/97	12/2/97

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	OGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								SAND; with gravel (SW) loose, moist, imported Fill & Debris, light reddish brown, no gasoline odor		
10.0								SILT; Sandy (SM) dense, slight plasticity, fine to v. fine sand, moist, reddish brown, some organic material, no gasoline odor.		
15.0		Se	50+					interbedded Caliche Hardpan, damp at 15'		
19.0								SILT; with trace of sand (ML), hard, damp, interbede of Caliche Hardpan, non-plastic, fine to medium sand, gray, no gasoline odor.		
20.0		Se	50+							
21.0								SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, gasoline odor.		
25.0								BORING CONTINUED		

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: BC-1

PROJECT NUMBER: 94-15-12
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: CVT
RIG TYPE & NUMBER: CME 45
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Foggy
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 12/2/97 DATE COMPLETED: 12/2/97

FIELD BOOK NO.:
TOTAL DEPTH: 31.5'
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS) WO=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	12/2/97	12/2/97

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
25.0										
26.0		Se	50					SILT; sandy (SM) hard, Caliche Hardpan interbeds, damp, non-plastic, friable, light reddish brown, no gasoline odor.		
27.0										
28.0										
29.0										
30.0		Se	39							
31.0								SILT; (ML) with trace of sand, hard; moist, non-plastic, fine sand, gray, no gasoline odor.		
32.0								BOTTOM OF BORING AT 31.5		
33.0										
34.0										
35.0										
36.0										
37.0										
38.0										
39.0										
40.0										
41.0										
42.0										
43.0										
44.0										
45.0										
46.0										
47.0										
48.0										
49.0										
50.0										

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: BC-2

PROJECT NUMBER: 94-15-12
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Co.
DRILLING COMPANY: CVT
RIG TYPE & NUMBER: CME 45
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Foggy
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 12/2/97 DATE COMPLETED: 12/2/97

FIELD BOOK NO.:
TOTAL DEPTH: 31.5'
GROUND SURFACE ELEVATION:
SHEET: 1 OF:

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	12/2/97	12/2/97

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
0.0								SILT; Sandy (SM) dense, slight plastic, fine to v. fine sand, moist, light brown, some organic material, strong gasoline odor beginning at 2.0'.		
1.0										
2.0										
3.0										
4.0								SAND; Silty (SW-SP) with trace of gravel, dense, very moist, fine to medium, brown, gasoline odor.		
5.0		Ss	46							
6.0										
7.0										
8.0								SILT; Sandy (SM), hard, damp, Caliche Hardpan, non-plastic, very fine to medium sand, brown, gasoline odor to 10'.		
9.0										
10.0		Ss	45							
11.0										
12.0										
13.0										
14.0								SAND; poorly graded (SP) with trace of silt, dense, very moist, fine, some silt as interbeds, dark yellowish brown, no gasoline odor.		
15.0		Ss	42							
16.0										
17.0										
18.0										
19.0								SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, no gasoline odor.		
20.0		Ss	50+							
21.0										
22.0										
23.0										
24.0										
25.0								BORING CONTINUED		

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: BC-2

PROJECT NUMBER: 94-15-12
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: CVT
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 12/2/97 DATE COMPLETED: 12/2/97

FIELD BOOK NO.:
TOTAL DEPTH: 31.5'
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS)		
WD-While Drilling AB-After Boring		
Depth(Ft)	00	00
Time	00	00
Date:	12/2/97	12/2/97

LOCATION DIAGRAM

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	OSI	LITHOLOGY	WELL INSTALLATION
25.0		Se	50+					SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, no gasoline odor.	
26.0									
27.0									
28.0									
29.0								SILT; (ML) with trace of sand, hard, moist, non-plastic, v. fine sand, light grayish brown w/ brown mottling, no gasoline odor.	
30.0		Se	50+						
31.0								SILT; (ML), some sand, trace of clay, hard, moist, low plasticity, v. fine sand, olive, gasoline odor.	
32.0								BOTTOM OF BORING AT 31.5	
33.0									
34.0									
35.0									
36.0									
37.0									
38.0									
39.0									
40.0									
41.0									
42.0									
43.0									
44.0									
45.0									
46.0									
47.0									
48.0									
49.0									
50.0									

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well___ Boring/Well Number: B-1 Sheet 1 of 3

Boring Location: SEE SITE PLAN		Started: 12-30-93	Finished: 12-30-93
Drilled By: SB&S DRILLING		Elevation: NOT DETERMINED	
Drilling Equipment: MOBILE B61		Borehole Diameter: 6"O.D.	
Sampling Equipment: 2"I.D. L.R.S.		Auger Type: HOLLOW STEM	
Drilling Fluid: NONE		Completed Depth: 55 FEET BSG.	
Backfill Material: SAND/CEMENT SLURRY		Water Depth: NOT ENCOUNTERED	
Logged By: M. D.	Checked By: DGW	Casing Type/Dia: NONE	

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
5	SAND, Poorly graded; fine grained, moist reddish brown. (SP)	N/A		N/A	Logged from Drill cuttings. No hydrocarbon odors detected.
10	Becoming silty fine - very fine grained. (SP/SM)	N/A		N/A	
15	SAND, Silty; fine to medium grained, moist, firm, reddish brown. (SM)	N/A		N/A	

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-1 Sheet 2 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
20	Becoming very fine grained, moist, dense, gray.	53		250	Strong hydrocarbon odor.
25	SILT, Sandy; non-plastic, very moist, dense, with very fine mica, gray. (ML)	70		295	Strong odor.
30	Becoming clayey, slight plasticity, wet very dense, dark gray. (ML)	80		780	Very strong odor.
35	SAND, Poorly graded; fine to medium grained, moist, medium dense, dark gray. (SP)	22		143	
40	Becoming fine grained, very fine mica, light brown	34		95	Moderate hydro-carbon odor.

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well___ Boring/Well Number: B-1 Sheet 3 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
45	Same	34		580	Moderate hydrocarbon odor present.
50	SAND, Well graded; fine to medium grained, moist, dense, abundant fine mica, reddish brown. (SW)	42		150	No hydrocarbon odor detected.
55	SAND, Silty; very fine to fine grained, slightly moist, light brown. (SM)	32		120	No hydrocarbon odor.
	Bottom of Boring 55' bsg.				

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-2 Sheet 1 of 3

Boring Location: SEE SITE PLAN		**Started:** 12-30-93	**Finished:** 12-30-93
Drilled By: SB&S DRILLING		**Elevation:** NOT DETERMINED	
Drilling Equipment: MOBILE B61		**Borehole Diameter:** 6"O.D.	
Sampling Equipment: 2"I.D. L.R.S.		**Auger Type:** HOLLOW STEM	
Drilling Fluid: NONE		**Completed Depth:** 55 FEET BSG.	
Backfill Material: SAND/CEMENT SLURRY		**Water Depth:** NOT ENCOUNTERED	
Logged By: M. D.	**Checked By:** DGW	**Casing Type/Dia:** NONE	

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
5	SAND, Silty; fine to medium grained, moist, abundant fine mica, reddish brown. (SM)	N/A		N/A	No hydrocarbon odor
10	Same.	N/A		N/A	
15	Becoming poorly graded, fine grained, moist, firm, reddish brown. (SM/SP)	N/A		N/A	No hydrocarbon odor.

GEOTRACKER ID#:T0603900001

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-2 Sheet 2 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
20	CLAY, Very silty; medium plasticity, very moist, hard, gray with rust stringers. (CL)	37			No hydrocarbon odor.
25	SILT, Sandy; very fine grained, moist, dense, light grayish brown to orange. (ML)	70			Contains fine sandy laminations. No hydrocarbon odor.
30	SAND, Silty; fine to medium grained, dense, wet, olive brown. (SM)	73			No odor.
35	SAND, Poorly graded; very fine grained, very moist, medium dense, abundant fine mica, grayish brown. (SP)	22			No odor.
40	Same; becoming light brown.	27			No odor.

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-2 Sheet 3 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
45	Same.	30			No hydrocarbon odor.
50	SAND, Well graded; fine to medium grained, very moist, medium dense, dark brown. (SM)	24			No hydrocarbon odor.
	Becoming silty; fine grained, light brown. (SM)	25			No odor.
55	Bottom of Boring at 55 Feet BSG.				

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-3 Sheet 1 of 3

Boring Location: SEE SITE PLAN		**Started:** 12-30-93	**Finished:** 12-30-93
Drilled By: SB&S DRILLING		**Elevation:** NOT DETERMINED	
Drilling Equipment: MOBILE B61		**Borehole Diameter:** 6"O.D.	
Sampling Equipment: 2"I.D. L.R.S.		**Auger Type:** HOLLOW STEM	
Drilling Fluid: NONE		**Completed Depth:** 55 FEET BSG.	
Backfill Material: SAND/CEMENT SLURRY		**Water Depth:** NOT ENCOUNTERED	
Logged By: M. D.	**Checked By:** DGW	**Casing Type/Dia:** NONE	

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
5	SAND, Poorly graded; fine to medium grained, reddish brown. (SP)	N/A		N/A	No hydrocarbon odors.
10	Becoming silty, very moist (SP/SM)	N/A		N/A	
15	CLAY, Sandy; medium plasticity, firm, very moist, reddish brown. (CL)	N/A		N/A	

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-3 Sheet 2 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
20	SILT, Clayey; slight plasticity, moist hard, friable, gray. (ML)	80			Contains organic fragments. Strong hydrocarbon odors.
25	Same; abundant oxide stringers.	81			Moderate to strong hydrocarbon odor.
30	SILT, Sandy; very fine grained, non-plastic, very moist, very dense, gray. (ML)	69			Slight hydrocarbon odor.
35	SAND, Poorly graded; fine grained, loose, slightly moist, brown (SP)	19			Contains few rock frangments.
40	Becoming very fine grained, slightly silty.	26			No odor or soil discoloration

SOIL BORING LOG

Project: SIMPSON Job No.: 94.0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-3 Sheet 3 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
45	SAND, Silty; fine grained, light brown. (SM)	23			No hydrocarbon odor.
50	SAND, Poorly graded; fine to medium grained, very moist, medium dense, abundant fine mica, light brown. (SP)	18			No odor.
55	Becoming fine grained, brown. (SP)	27			No odor.
	Bottom of Boring at 55 Feet BSG.				

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-4 Sheet 1 of 3

Boring Location: SEE SITE PLAN		**Started:** 12-30-93	**Finished:** 12-30-93
Drilled By: SB&S DRILLING		**Elevation:** NOT DETERMINED	
Drilling Equipment: MOBILE B61		**Borehole Diameter:** 6"O.D.	
Sampling Equipment: 2"I.D. L.R.S.		**Auger Type:** HOLLOW STEM	
Drilling Fluid: NONE		**Completed Depth:** 55 Feet BSG.	
Backfill Material: SAND/CEMENT SLURRY		**Water Depth:** NOT ENCOUNTERED	
Logged By: M. D.	**Checked By:** DGW	**Casing Type/Dia:** NONE	

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
5	SAND, Silty; fine grained with few coarse sand grains, loose, reddish brown. (SM)	N/A		N/A	No hydrocarbon odor detected.
10	SAND, Poorly graded; fine grained, moist, reddish brown (SP) Becoming well graded.	N/A		N/A	Abundant hard pan clasts.
15	SAND, Well graded; fine to coarse grained, very moist, dense, brown. (SW)	50/6"		N/A	No hydrocarbon odor detected.

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-4 Sheet 2 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
20	SAND, Poorly graded; fine grained, slightly moist, medium dense, light brown. (SP) Becoming clayey.	29			Strong hydrocarbon odor.
25	CLAY, Silty; slightly plastic, moist , hard and friable, dark gray to orange. (CL)	50/5"			Very strong hydrocarbon odor.
30	SILT, Sandy; very fine grained, non-plastic, wet, gray. (ML)	52			Strong hydrocarbon odor.
35	SAND, Well graded; fine to coarse grained, abundant dark lithic fragments, loose, slightly moist, dark gray. (SW)	25			Slight odor.
40	SAND, Poorly graded; fine grained, moist, medium dense, brown. (SP)	22			No odor. Split spoon sample.

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-4 Sheet 3 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
45	Same; contains few medium sand grains, light brown.	25			No hydrocarbon odor.
50	SAND, Well graded; fine to medium grained with few coarse grains, medium dense, light brown. (SW)	29			No odor.
55	SAND, Poorly graded; slightly silty, very fine grained, dense, light brown. (SP)	35			No hydrocarbon odor.
	Bottom of Boring at 55 Feet BSG.				

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-5 Sheet 1 of 3

Boring Location: SEE SITE PLAN		Started: 12-30-93	Finished: 12-30-93
Drilled By: SB&S DRILLING		Elevation: NOT DETERMINED	
Drilling Equipment: MOBILE B61		Borehole Diameter: 6"O.D.	
Sampling Equipment: 2"I.D. L.R.S.		Auger Type: HOLLOW STEM	
Drilling Fluid: NONE		Completed Depth: 55 FEET BSG.	
Backfill Material: SAND/CEMENT SLURRY		Water Depth: NOT DETERMINED	
Logged By: M. D.	Checked By: DGW	Casing Type/Dia: NONE	

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
-	Hard pan; well cemented silty sand, reddish brown.				
5--	SAND, Silty; fine grained, with hard pan clasts, moist, reddish orange. (SM)	15			No hydrocarbon odor.
10--	Becoming very silty, very fine to medium grained, medium dense, carbonaceous, reddish orange.	20			No hydrocarbon odor.
15--	SAND, Well graded; fine to coarse grained, firm very moist, dark reddish brown. (SW)				No hydrocarbon odor.

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-5 Sheet 2 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
20	CLAY, Silty with very fine sand; slight plasticity, moist, hard, gray. (CL)	40			Strong hydrocarbon odor.
25	SILT, Sandy; very fine grained, slightly moist, grayish brown. (ML)	46			Slight hydrocarbon odor.
30	CLAY, Medium plasticity; hard moist, dark olive gray. (CL)	50/5"			Abundant oxide stringers.
35	SAND, Well graded; fine to medium grained, loose, dark gray. (SW)	23			Abundant small lithic fragments. No detectable odor.
40	Becoming fine grained, poorly graded, brown. (SP)	44			

SOIL BORING LOG

Project: SIMPSON Job No.: 94-0286.01

Soil Boring X Monitoring Well ___ Boring/Well Number: B-5 Sheet 3 of 3

Dph. Feet	Description	Blows Per 6 In.	Samp No	OVM ppm	Remarks
45	SAND, Poorly graded, fine grained, moist, light grayish brown. (SP)	28			No hydrocarbon detected.
50	SAND, Well graded, fine to medium grained, dense, light brown. (SW)	35			No odor.
55	Becoming fine grained, poorly graded. (SP)	39			No odor.
	Bottom of Boring at 55 Feet BSG.				

FIELD BOREHOLE LOG

BOREHOLE NUMBER: VES-1

PROJECT NUMBER: 94-15-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 8/15/95 DATE COMPLETED: 8/15/95

FIELD BOOK NO.:
TOTAL DEPTH: 42.9'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	08/15/95	08/15/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	OGI	LOCATION DIAGRAM	LITHOLOGY	WELL INSTALLATION
5.0	■	Ss	6			■		SAND; with gravel (SW) loose, imported Fill & Debris, light reddish brown, no gasoline odor		
10.0	■	Ss	12			■		SILT; Sandy (SM) firm, slight to low plasticity, fine sand, moist, reddish brown, some organic material, no gasoline odor.		
15.0	■	Ss	55			■		interbedded Caliche Hardpan, damp		
20.0	■	Ss	59			■		SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, slight gasoline odor.		
25.0								BORING CONTINUED		

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: VES-1

PROJECT NUMBER: 94-16-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 8/16/95 DATE COMPLETED: 8/16/95

FIELD BOOK NO.:
TOTAL DEPTH: 42.9'
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	08/16/95	08/16/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM
25.0								
26.0		Ss	58					SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, gasoline odor.
27.0								
28.0								
29.0								SAND; poorly graded (SP) with trace of silt, medium dense, moist, fine, gray, abundant quartz, mica & mafic rock fragments, gasoline odor.
30.0		Ss	35					
31.0								
32.0								
33.0								
34.0								
35.0		Ss	25					very slight gasoline odor at 35'
36.0								
37.0								
38.0								
39.0								SILT; (ML) with trace of clay, hard, moist, slightly plastic, light grayish brown, some mafic concretions, very slight gasoline odor.
40.0		Ss	15					
41.0								
42.0								
43.0								
44.0								
45.0		Ss	28					no gasoline odor at 45'
46.0								
47.0								BOTTOM OF BORING AT 46.5
48.0								
49.0								
50.0								

LITHOLOGY

WELL INSTALLATION

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: VES-2

PROJECT NUMBER: 94-16-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 8/15/95 DATE COMPLETED: 8/15/95

FIELD BOOK NO.:
TOTAL DEPTH: 33.1'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	08/15/95	08/15/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM
5.0		Se	7					
10.0		Se	10					
15.0		Se	58					
20.0		Se	60					

SAND; with gravel (SW) loose, moist, imported F
& Debrie, light reddish brown, no gasoline odor

SILT; Sandy (SM) dense, slight plasticity,
fine to v. fine sand, moist, reddish brown,
some organic material, no gasoline odor.

interbedded Caliche Hardpan, damp at 15'

SILT; with trace of sand (ML), hard, damp,
interbeds of Caliche Hardpan, non-plastic,
fine to medium sand, gray, strong gasoline
odor.

SAND; Silty (SM), dense, damp, very fine,
light gray w/ brown mottling, gasoline odor.

BORING CONTINUED

LITHOLOGY

WELL INSTALLATION

GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: VES-2

PROJECT NUMBER: 94-16-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Co.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehs
DATE BEGUN: 8/15/95 DATE COMPLETED: 8/15/95

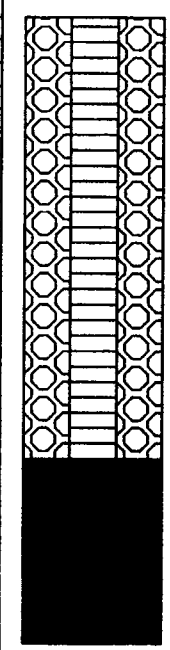
FIELD BOOK NO :
TOTAL DEPTH: 33.1'
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

STATIC WATER LEVEL (BLS) WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	08/15/95	08/15/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM
25.0								
26.0		Ss	60					SILT; sandy (SM) hard, Caliche Hardpan interbeds, damp, non-plastic, friable, light reddish brown, strong gasoline odor.
27.0								
28.0								
29.0								
30.0								
31.0		Ss	40					SILT; (ML) with trace of sand, hard, moist, non-plastic, fine sand, gray, slight gasoline odor.
32.0								
33.0								
34.0								
35.0								
36.0		Ss	15					increased plasticity, no gasoline odor at 35'
37.0								BOTTOM OF BORING AT 36.5
38.0								
39.0								
40.0								
41.0								
42.0								
43.0								
44.0								
45.0								
46.0								
47.0								
48.0								
49.0								
50.0								

LITHOLOGY

WELL INSTALLATION



GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-6/VES-3

PROJECT NUMBER: 94-15-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehe
DATE BEGUN: 8/15/95 DATE COMPLETED: 8/15/95

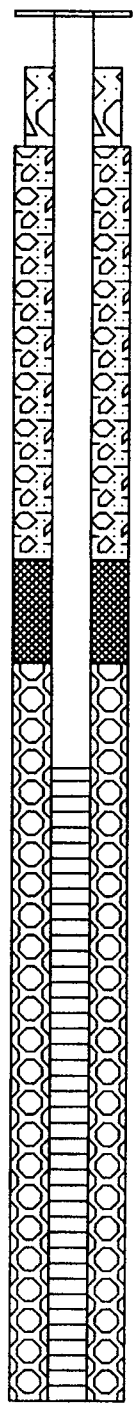
FIELD BOOK NO.:
TOTAL DEPTH: 38.4'
GROUND SURFACE ELEVATION:
SHEET: 1 OF: 2

STATIC WATER LEVEL (BLS)		
WD=While Drilling AB=After Boring		
Depth(ft)	00	00
Time	00	00
Date:	08/15/95	08/16/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM
1.0								
0.0								SILT; Sandy (SM) dense, slight plastic, fine to v. fine sand, moist, light brown, some organic material, very strong gasoline odor beginning at 1.5'.
1.0								
2.0								
3.0								
4.0								SAND; Silty (SW-SP) with trace of gravel, dense, very moist, fine to medium, brown, very strong gasoline odor.
5.0		Se	46					
6.0								
7.0								
8.0								SILT; Sandy (SM), hard, damp, Caliche Hardpan, non-plastic, very fine to medium sand, brown very strong gasoline odor.
9.0								
10.0		Se	45					
11.0								
12.0								
13.0								
14.0								SAND; poorly graded (SP) with trace of silt, dense, very moist, fine, some silt interbeds, dark yellowish brown, strong gasoline odor.
15.0		Se	42					
16.0								
17.0								
18.0								
19.0								SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, gasoline odor.
20.0		Se	50					
21.0								
22.0								
23.0								
24.0								
25.0								BORING CONTINUED

LITHOLOGY

WELL INSTALLATION



GEOTRACKER ID#:T0603900001

FIELD BOREHOLE LOG

BOREHOLE NUMBER: B-6/VES-3

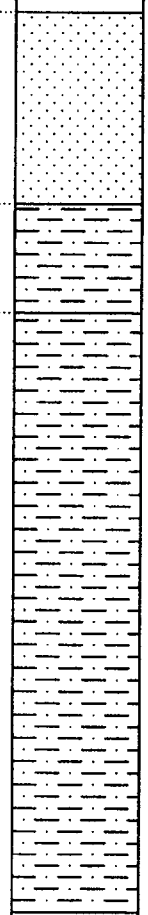
PROJECT NUMBER: 94-16-02A
PROJECT NAME: Jackie Simpson Property
LOCATION: 1451 E. Yosemite Avenue, Madera, Ca.
DRILLING COMPANY: Krazan & Assoc.
RIG TYPE & NUMBER: Mobile B-61
DRILLING METHOD: Hollow-Stem Auger
WEATHER: Sunny
FIELD PARTY:
GEOLOGIST: W.Sheehs
DATE BEGUN: 8/15/95 DATE COMPLETED: 8/16/95

FIELD BOOK NO.:
TOTAL DEPTH: 38.4'
GROUND SURFACE ELEVATION:
SHEET: 2 OF: 2

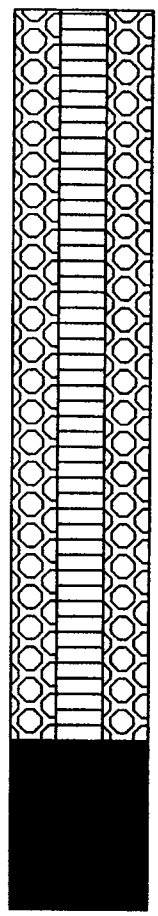
STATIC WATER LEVEL (BLS)		
WD-While Drilling AB-After Boring		
Depth(Ft)	00	00
Time	00	00
Date:	08/15/95	08/16/95

DEPTH	SOIL SAMPLES	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	ORGANIC VAPOR	CGI	LOCATION DIAGRAM
25.0								
26.0	■	Ss	59			■		SAND; Silty (SM), dense, damp, very fine, light gray w/ brown mottling, gasoline odor.
27.0								
28.0								
29.0								SILT; (ML) with trace of sand, hard, moist, non-plastic, v. fine sand, light grayish brown w/ brown mottling, gasoline odor.
30.0	■	Ss	60			■		
31.0								SILT; (ML), some sand, trace of clay, hard, moist, low plasticity, v. fine sand, olive, gasoline odor.
32.0								
33.0								
34.0								
35.0	■	Ss	28			■		slight gasoline odor at 35'
36.0								
37.0								
38.0								
39.0								
40.0	■	Ss	29			■		no gasoline odor at 40'
41.0								
42.0								BOTTOM OF BORING AT 41.5
43.0								
44.0								
45.0								
46.0								
47.0								
48.0								
49.0								
50.0								

LITHOLOGY



WELL INSTALLATION



GEOTRACKER ID#:T0603900001

Project: 1389G

LOGGED BY MH DATE DRILLED 12-27-85 BORING DIAMETER 8" BORING NO. DOT-1

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft-lbs.	Qu - t. s. f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
1			Brown silty SAND, moist loose No fuel odor.	SM					
2									
3									
4			Golden brown coarse SAND moist, medium dense No fuel odor.	SP					
5									
6									
7	1-1		Red brown coarse SAND with silt, damp very dense No fuel odor	SP-SM	90/9"				
8									
9	1-2		Gray brown medium SAND, damp dense Strong fuel odor	SP	70				
10			Boring terminated at 10 feet. No groundwater encountered.						

FIGURE NO.

GEOTRACKER ID#:T0603993729

Project: 13896

LOGGED BY MH DATE DRILLED 12-27-85 BORING DIAMETER 8" BORING NO. DOT-2

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft-lbs.	Qu - t. s. f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
1			Brown silty SAND, moist, loose No fuel odor	SM					
3			Golden brown coarse SAND moist medium dense No fuel odor.	SP					
6	2-1		Red brown coarse SAND with silt damp dense No fuel odor	SP-SM	84				
8			Gray brown medium SAND damp dense	SP					
9	2-2		Strong fuel odor		47				
10			Boring terminated at 10 feet. No groundwater encountered.						

FIGURE NO.

GEOTRACKER ID#:T0603993729

Project No: 1389G

LOGGED BY MH DATE DRILLED 12-27-85 BORING DIAMETER 8" BORING NO. DOT-3

Depth, ft.	Sample No. and type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	Blows/foot 350 ft-lbs.	Qu - t. s. f. Penetrometer	Dry Density p.c.f.	Moisture % dry wt.	MISC. LAB RESULTS
1			1" asphaltic concrete Brown silty SAND, moist dense	SM					
2			Orange brown silty SAND, moist medium dense No fuel odor	SM					
3									
4									
5			Grades to very dense						
6									
7	3-1				110/ 11"				
8									
9									
10	3-2		No fuel odor		83				
			Boring terminated at 10 feet. No groundwater encountered.						

FIGURE NO.

GEOTRACKER ID#:T0603993729

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
Madera, California

JOB No: TL 488-0250

DRILL TYPE: B-40 (6 5/8-inch hollow stem auger)

DRILLED BY: Terry Conley LOGGED BY: RKS/DGD

REMARKS:

HOLE No.: B-1

SHEET No. 1 OF 2

LOCATION: East side of former tank site.

ELEVATION: TOP OF HOLE: 268** FT.

GROUNDWATER: N/A

DATE: STARTED: 8/10/88

COMPLETED: 8/10/88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	Asphalt cap										
	SAND: Silty, damp, fine grain, dark brown, (SM)										
5											
	SILT: damp, slightly plastic, very stiff, medium brown, (ML)	LRS	20								No odor sample
10											
	SAND: Silty, damp, non-plastic very dense, fine to medium grain, medium brown, (SM)	LRS	56								Drager Tube: TH: 100 ppm
15											
	SAND: damp, fine to coarse grain, medium dense, occasional very coarse, mica, medium brown (SW)	LRS	26								Drager Tube TH: ND
20											
	SILT: Sandy, damp, non-plastic hard, fine to medium grain sand	LRS	68								Drager Tube TH: ND
25											

PROJECT: Britz Fertilizers, Inc.
Madera, California
JOB No: TL 488-250
DRILL TYPE: B-40 (6 5/8" hollow stem auger)
DRILLED BY: Terry Conley LOGGED BY: RKS/DGD
REMARKS:

HOLE No.: B-1
SHEET No. 2 OF 2
LOCATION: East side of former tank site.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 8/10/88
COMPLETED: 8/10/88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED: GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SAND: damp, fine to medium grained, slightly cemented, medium brown, (SW)										
30	SAND: as above, increasing in size	LRS	..43								Drager Tube: TH: ND
	Bottom of Boring										

The Twining Laboratories, Inc.
Visalia Fresno Modesto Bakersfield

GEOTRACKER ID#:T0603900054

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
Madera, California

JOB No: TL 488-0250

DRILL TYPE: B-40 (6 5/8" hollow stem auger)

DRILLED BY: Terry Conley LOGGED BY: RKS

REMARKS:

HOLE No.: B-2

SHEET No. 1 OF 2

LOCATION: North end of former tank site.

ELEVATION: TOP OF HOLE: 268** FT.

GROUNDWATER: N/A

DATE: STARTED: 8/10/88

COMPLETED: 8/10/88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	Asphalt cap										
	SAND: Silty, damp, fine grain, dark brown, (SM)										
5		LRS									
	SILT: damp, slightly plastic, trace of very fine grain sand, dark brown, (ML)										
10		LRS									No odor
	Hardpan: dark orange (ML)										No odor
15	SAND: Silty, damp, non-plastic dense, fine to medium grain, Medium brown, (SM)	LRS	40								Drager Tube: TH: 2500ppm
20	SAND: damp, medium dense, medium to coarse grain, occ. gravel to ¼", dark orange, (SW)	LRS	28								Drager Tube: TH: +2500ppm
	SAND: Silty, damp, medium dense, non-plastic, fine to medium grain, medium brown (SM)										
25	As above	LRS	53								Drager Tube: TH: 300 ppm

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
Madera, California
JOB No: TL 488-0250
DRILL TYPE: B-40 (6 5/8" hollow stem auger)
DRILLED BY: Terry Conley LOGGED BY: RKS
REMARKS:

HOLE No.: B-2
SHEET No. 2 OF 2
LOCATION: North end of former tank site.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 8/10/88
COMPLETED: 8/10/88.

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SAND: damp, fine to medium grain, dense, occ. coarse, medium brown, trace of mica, (SW)	LRS	43								Drager Tube: TH: ND
35	SAND: Silty, damp, non-plastic, medium dense, fine to medium grain, medium brown, trace of mica, (SM)	LRS	30								Drager Tube: TH: +2500ppm
40	SILT: Sandy, damp, slightly plastic, hard, very fine grain sand, medium brown, trace of mica, (ML)	LRS	50								Drager Tube: TH: +2500ppm
45	SAND: damp, dense, very fine grain, dark gray, trace of mica (SW)	LRS	42								Drager Tube: TH: 100 ppm
	CLAY: damp, medium plastic, light gray, (CL)										
50	SAND: damp, dense, very fine grain, light gray, (SW) Bottom of Boring	LRS	39								Drager Tube: TH: - 100ppm

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
Madera, California
JOB No: TL 488-0250
DRILL TYPE: B40 (6 5/8" hollow stem auger)
DRILLED BY: Terry Conley LOGGED BY: RKS
REMARKS:

HOLE No.: B-3
SHEET No. 1 OF 2
LOCATION: West side of former tank site.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 8/10/88
COMPLETED: 8/10/88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SILT: Sandy, dry, non-plastic, light brown, (ML)										
5	As above										
10	Hardpan: dark orange, very brittle (ML)	LRS									No odor
15	SAND: Silty, damp, non-plastic very dense, fine to medium grain dark brown, (SM)	LRS	53								Drager Tube: TH: 100 ppm
20	SAND: As above with increasing grain size to medium to very coarse, occ. gravel to ¼" (SM)	LRS	19								Drager Tube: TH: 100 ppm
25	SAND: Silty, damp, dense non-plastic, fine to medium grain, medium orange brown, (SM)	LRS	42								Drager Tube: TH: 2500ppm

LOG OF BORING

PROJECT: Britz Fertilizers, Inc., Madera, California
JOB No: TL 488-0250
DRILL TYPE: B-40 (6 5/8" hollow stem auger)
DRILLED BY: Terry Conley LOGGED BY: RKS
REMARKS:

HOLE No.: B-3
SHEET No. 2 OF 2
LOCATION: West side of former tank site.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 8/10/88
COMPLETED: 8/10/88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
0	SAND: damp, dense, medium to coarse grain, occ. gravel to ¼", dark orange brown, (SW)	LRS	44								Drager Tube: TH: +2500ppm
5	SILT: Sandy, damp, slightly plastic, hard, very fine grain sand, mica, medium brown, (ML)	LRS	40								Drager Tube: TH: 500 - 1000 ppm
10	As above	LRS	78								Drager Tube: TH: +2500ppm
45	SAND: damp, very dense, very fine to fine grain, medium gray, (SP)	LRS	57								Drager Tube: TH: +2500ppm
50	SAND: damp, very dense, medium to very coarse grain, dark brown, occ. gravel to ½", (SW) Bottom of Boring	LRS	70								Drager Tube: TH: +2500ppm

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 18 feet east of fenceline, 20 feet north of excavation.

HOLE No.: B-4
SHEET No. 1 OF 3
LOCATION: See Remarks

ELEVATION: TOP OF HOLE: 268** ± FT.
GROUNDWATER: N/A
DATE: STARTED: 4/21/89
COMPLETED: 4/21/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
5	SAND, Clayey; loose, moist, fine to medium, dark brown (SC)										
10	CLAY, Sandy; hard, moist, high plasticity, dark brown (CH)	LRS	78								Sample No. 1 ND- drager
	SILT; hard, dry, low plasticity, strongly cemented, reddish brown (ML)		.5								
15	SILT, Sandy and Clayey ; hard, moist to wet, non-plastic, light brown (ML)	LRS	49								Sample No. 2 ND - drager
20	SAND, Poorly graded; medium dense, moist to wet, non-plastic, dark yellowish brown (SP)	LRS	20								Sample No. 3 ND - drager
25	SILT; hard, moist, non-plastic reddish brown (ML)	LRS	37								Sample No. 4 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-02508-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 18 feet east of fenseline, 20 feet north of excavation.

HOLE No.: B-4
SHEET No. 2 OF 3
LOCATION: See remarks.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 4/21/89
COMPLETED: 4/21/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SAND, Poorly graded; dense, moist, medium grained, some coarse gravel to 5 cm., dark yellowish brown (SP)	LRS	43								Sample No. 5 ND - drager
35	SILT; hard, moist, low plasticity, some fine sand, light brown (ML)	LRS	34								Sample No. 6 ND - drager
	occasional volcanic ash, white and cemented nodules										
40	increased clay content, medium plasticity, no sands		45								Sample No. 7 ND - drager
45	SILT, Clayey with fine sand; hard, moist, high plasticity, dark gray (MH)	LRS	50								Sample No. 8 ND - drager
50	CLAY; very stiff, wet, high plasticity, orange mottling, gray (CH)	LRS	23								Sample No. 9 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250:01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 18 feet east of fenceline, 20 feet north of excavation

HOLE No.: B-4
SHEET No. 3 OF 3
LOCATION: See remarks.
ELEVATION: TOP OF HOLE: 268** FT.
GROUNDWATER: N/A
DATE: STARTED: 4/21/89
COMPLETED: 4/21/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
55	10 inch layer at 55 feet										
	ASH with very fine sand; hard, damp, low plasticity, white (ML)		38								Sample No. 10 ND - drager
60	SAND, Poorly graded; dense, moist, very fine to fine, light brown (SP)		32								Sample No. 11 ND - drager
65	SILT; hard, moist, high plasticity, orange iron oxide mottling, light gray (MH)		74								Sample No. 12 ND - drager
	decreased silt content										
70	SAND with ash; dense, damp to dry, very fine to medium, clean, white (ML)		39								Sample No. 13 ND - drager
	Bottom of boring										
75											

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250-01
DRILL TYPE: Mobile B-61 (hollow stem auger)
DRILLED BY: T. Conley LOGGED BY: W. Sheehe
REMARKS: 17 feet west of fenceline, 25 feet north of MW-1.

HOLE No.: B-5
SHEET No. 1 OF 3
LOCATION: See remarks.

ELEVATION: TOP OF HOLE: 268.** FT.
GROUNDWATER: N/A
DATE: STARTED: 4/22/89
COMPLETED: 4/22/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	CLAY, Silty; stiff, moist, medium plasticity, ductile, abundant mica, dark brown (CL)										
5	wet										
	SILT; hard, damp, low plasticity strongly cemented, some gravel magnetite weathering surface, light brown (ML)										
10		LRS	50/.25								Sample No. 1 ND - drager
	SAND, Silty; very dense, moist fine to medium, light brown (SM)										
15		LRS	100								Sample No. 2 ND - drager
	SAND, Poorly graded; dense, moist, medium to fine, clean, dark yellow (SP)										
20		LRS	50								Sample No. 3 ND - drager
	SILT, Sandy with clay; hard, moist, low plasticity, reddish brown (ML)										
25		LRS	74								Sample No. 4 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0258-01
DRILL TYPE: Mobile B-61 (hollow stem auger)
DRILLED BY: T. Conley LOGGED BY: W. Sheehe
REMARKS: 17 feet west of fenceline, 25 feet north of MW-1.

HOLE No.: B-5
SHEET No. 2 OF 3
LOCATION: See remarks
ELEVATION: TOP OF HOLE: 268 **FT.
GROUNDWATER: N/A
DATE: STARTED: 4/22/89
COMPLETED: 4/22/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SAND, Poorly graded; dense, moist, very fine to fine, 60 percent quartz, 25 percent rock fragments, 10 percent feldspar, 5 percent mica, dark yellow (SP)	LRS	63								Sample No. 5 ND - drager
35	SILT, Clayey; hard, moist, medium plasticity, dark brown (CL)	LRS	68								Sample No. 6 ND - drager
	iron oxide staining										
40	increased mica content	LRS	58								Sample No. 7 ND - drager
45	SAND, Silty; very dense, moist, very fine to fine, dark brown (SM)	LRS	54								Sample No. 8 55 ppm - gas-tech ND - drager
50	SILT; hard, moist, medium plasticity, brown (ML)	LRS	56								Sample No. 9 ND- drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-02508-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 17 feet west of fenceline, 25 feet north of MW - 1.

HOLE No.: B-5
SHEET No. 3 OF 3
LOCATION: See remarks.
ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: N/A
DATE: STARTED: 4/22/89
COMPLETED: 4/22/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SILT; continues										
55	SAND, Poorly graded; medium dense, damp, fine to medium light gray (SP)	LRS	29								Sample No. 10 ND - drager
60	SILT; hard, moist, non-plastic, friable, light yellow (ML)	LRS	67								Sample No. 11 ND - drager
65	increased clay content strongly cemented	LRS	85								Sample No. 12 ND - drager
70	ASH, with very fine sand, hard, damp, low plasticity, white (ML)	LRS	92								Sample No. 13 ND - drager
	Bottom of boring										
75											

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California

JOB No: TL 488-0250-01

DRILL TYPE: Mobile B-61 (hollow stem auger)

DRILLED BY: T. Conley LOGGED BY: W. Sheehe

REMARKS: 17 feet west of fenceline, 50 feet north of MW-1.

HOLE No.: B-6

SHEET No. 1 OF 3

LOCATION: See remarks.

ELEVATION: TOP OF HOLE: 268 ** FT.

GROUNDWATER: N/A FT.

DATE: STARTED: 5/12/89

COMPLETED: 5/12/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
5	CLAY, Sandy; soft, moist to wet low plasticity, dark brown (CL)										
10	SAND, Silty; very dense, damp to dry, fine to medium, cemented, light reddish brown (SM)	LRS	64/.5								Sample No. 1 ND - drager
15	SILT, Sandy; hard, moist, fine sand, non-plastic, friable, dark brown (ML)	LRS	57								Sample No. 2 ND - drager
20	SAND, Silty; medium dense, moist, medium to coarse, some general, abundant quartz, cemented in spots, reddish-brown (ML)	LRS	30								Sample No. 3 ND - drager
25	predominantly fine sand										Sample No. 4 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250-01
DRILL TYPE: Mobile-B61 (hollow stem auger)
DRILLED BY: T. Conley LOGGED BY: W. Sheehe
REMARKS: 17 feet west of fenceline 50 feet north of MW-1.

HOLE No.: B-6
SHEET No. 2 OF 3
LOCATION: See remarks

ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: N/A FT.
DATE: STARTED: 5/12/89
COMPLETED: 5/12/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	2" silt layer at 30'	LRS	55								Sample No. 5 ND- drager
5	SILT; hard, moist, medium plasticity, some mica flakes, brown (MH)	LRS	34								Sample No. 6 ND - drager
0	very stiff	LRS	25								Sample No. 7. ND - drager
5	increased mica content hard petroleum odor	LRS	32								Sample No. 8 ND - drager
50	SAND, Poorly graded; dense, wet, medium to fine, some gravel, dark gray (SP)	LRS	53								Sample No. 9 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250-01
DRILL TYPE: Mobile B-61 (hollow stem auger)
DRILLED BY: T. Conley LOGGED BY: W. Sheehe
REMARKS: 17 feet west of fenceline, 50 feet north of MW-1.

HOLE No.: B-6
SHEET No. 3 OF 3
LOCATION: See remarks.

ELEVATION: TOP OF HOLE: 268-** FT.
GROUNDWATER: NA
DATE: STARTED: 5/12/89
COMPLETED: 5/12/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	petroleum odor										Sample No. 10. ND - drager
	Bottom of boring										

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-02508-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 23 feet west of fenceline.

HOLE No.: MW - 1
SHEET No. 1 OF 5
LOCATION:

ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: 98 BSG
DATE: STARTED: 5/31/89
COMPLETED: 5/31/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	SAND, Silty with gravel; loose, moist, medium to fine, dark brown (SM)										
	SILT, Clayey; soft, damp, medium plasticity, brown (CL)										
	SILT with gravel; hard, damp to dry, non-plastic, strongly cemented, iron oxide, quartz, light brown (ML)	SSS	40								Sample No. 1 ND - drager
	increased clay content										
	SAND, Poorly graded; medium dense, moist, medium to fine, abundant quartz, dark yellowish brown (SP)	SSS	18								Sample No. 2 ND - drager
	6 inch sandy clay layer at 20'										
	SILT, Clayey; with occasional gravel, very stiff, medium plasticity, light brown (CL)										

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California

JOB No: TL 488-0250-01

DRILL TYPE: CME-75 (hollow stem auger)

DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe

REMARKS: 23 feet west of fenceline

HOLE No.: MW-1

SHEET No. 2 OF 5

LOCATION: See results

ELEVATION: TOP OF HOLE: 268 ** FT.

GROUNDWATER: 98 BSG

DATE: STARTED: 5/31/89

COMPLETED: 5/31/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SAND, Poorly graded; medium dense, very moist, fine to medium, some coarse gravel, abundant metamorphic rock fragments, reddish brown (SP)	SSS	22								Sample No. 3 ND - drager
35	CLAY, Sandy; stiff, moist, medium-plasticity, fine sand, dark brown (CL)										
40	SILT, Clayey; hard, moist, medium plasticity, brown (ML)	SSS	40								Sample No. 4 ND - drager
45											
50	increased clay content, some fine mica	SSS	17								Sample No. 5 ND - drager

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-02508-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS:

HOLE No.: MW-1
SHEET No. 3 OF 5
LOCATION: See results

ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: 98 BSG FT.
DATE: STARTED: 5/31/89
COMPLETED: 5/31/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	seams to volcanic ash at 51'										
	CLAY; soft, very moist, high plasticity, highly ductile brown mottled, light gray to white (CH)										
5	SILT, Clayey; moist, low plasticity, dark brown (ML)										
	SAND, Poorly graded; medium dense, damp, very fine, light yellow to white (SP)	SSS	23								Sample No. ND - drager
	grades to silt with sand										
	CLAY, Sandy; stiff, wet, high plasticity, fine sand, medium, ductility, brown (SC)										
70											
75											

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-0250-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 23 feet west of fenceline.

HOLE No.: MW-1
SHEET No. 4 OF 5
LOCATION: See results

ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: 98 BSG
DATE: STARTED: 5/31/89
COMPLETED: 5/31/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	Sandy clay continues -										
80											
85											
	SAND, Poorly graded; medium dense, moist, very fine to fine, lamination of 91 light gray (SP)	SSS	25								Sample No. 7 ND - drager
90	silt layer 1-5 cm., lamination at 91.5'										
95											
100											

LOG OF BORING

PROJECT: Britz Fertilizers, Inc.
11856 Road 29, Madera, California
JOB No: TL 488-02500-01
DRILL TYPE: CME-75 (hollow stem auger)
DRILLED BY: R. Lawrence LOGGED BY: W. Sheehe
REMARKS: 23 feet west of fenceline

HOLE No.: MW-1
SHEET No. 5 OF 5
LOCATION: See results

ELEVATION: TOP OF HOLE: 268 ** FT.
GROUNDWATER: 98 -BSG FT.
DATE: STARTED: 5/31/89
COMPLETED: 5/31/89

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	Poorly graded sand continues										
100	wet, fine to medium, occasional coarse grained, slightly cemented at 101.5'	SSS	35								First encountered G.W. at 98 feet Sample No. 8 ND-Drager
105											
110											
	Bottom of boring										
115											
120											

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: B-61 6" Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-1

SHEET No. 1 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 2-23-88

COMPLETED: 2-23-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	fill material from 0-20'										
20	SILT; moist, non-plastic, stiff, dark olive (ML)	LRS									began sampling @ 20' sample No. 065 B-1-1
25	as above with a trace of very fine grain sand (ML)	LRS									sample No. 066 B-1-2

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: B-61 6" Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-1

SHEET No. 2 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 2-23-88

COMPLETED: 2-23-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SILT: clayey, moist, slightly plastic, hard medium olive	LRS									sample No. 067 B-1-3
35	SAND; moist, dense, light gray, very fine to fine grain										sample No. 068 B-1-4
	Bottom of Boring = 35'										
40											
45											
50											

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: CME-75 6 5/8" Hollow Stem Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-2

SHEET No. 1 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 9-12-88

COMPLETED: 9-12-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	fill material										
15	SAND; damp, very fine grain, light gray										
20	SILT; damp, non-plastic, light gray	SSS									no hydrocarbon odor B-2-1
25	as above	SSS									no hydrocarbon odor B-2-2

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GEOTRACKER ID#:T0603900030

TL106

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: CME-75

DRILLED BY: LOGGED BY:

REMARKS:

HOLE No.: B-2

SHEET No. 2 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 9-12-88

COMPLETED: 9-12-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED			ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
								GRAVEL	SAND	FINES	
30	SILT; damp, non-plastic, medium gray	SSS									no hydrocarbon odor B-2-3

The Twining Laboratories, Inc.

Visalia Fresno Modesto Bakersfield

GEOTRACKER ID#:T0603900030

TL106

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: B-61 6" Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-1

SHEET No. 1 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 2-23-88

COMPLETED: 2-23-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
	fill material from 0-20'										
20	SILT; moist, non-plastic, stiff, dark olive (ML)	LRS									began sampling @ 20' sample No. 065 B-1-1
25	as above with a trace of very fine grain sand (ML)	LRS									sample No. 066 B-1-2

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: B-61 6" Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-1

SHEET No. 2 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 2-23-88

COMPLETED: 2-23-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
30	SILT: clayey, moist, slightly plastic, hard medium olive	LRS									sample No. 067 B-1-3
35	SAND; moist, dense, light gray, very fine to fine grain Bottom of Boring = 35'										sample No. 068 B-1-4
40											
45											
50											

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GEOTRACKER ID#:T0603900030

TL106

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: CME-75 6 5/8" Hollow Stem Auger

DRILLED BY: R. Lawrence LOGGED BY: R.K.S.

REMARKS:

HOLE No.: B-2

SHEET No. 1 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 9-12-88

COMPLETED: 9-12-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED GRAVEL	SAND	FINES	ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
0	fill material										
15	SAND; damp, very fine grain, light gray										
20	SILT; damp, non-plastic, light gray	SSS									no hydrocarbon odor B-2-1
25	as above	SSS									no hydrocarbon odor B-2-2

The Twining Laboratories, Inc.

Visalia Fresno Modesto Bakersfield

GEOTRACKER ID#:T0603900030

TL106

LOG OF BORING

PROJECT: MADERA UNIFIED SCHOOL DISTRICT (EASTIN ARCOLA)
MADERA, CALIFORNIA

JOB No:

DRILL TYPE: CME-75

DRILLED BY: LOGGED BY:

REMARKS:

HOLE No.: B-2

SHEET No. 2 OF 2

LOCATION:

ELEVATION: TOP OF HOLE: FT.

GROUNDWATER:

DATE: STARTED: 9-12-88

COMPLETED: 9-12-88

DEPTH, FT.	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	SPT (N) BLOWS/ft.	% MOISTURE CONTENT	DRY DENSITY (PCF)	LIQUID LL LIMIT	PLASTICITY INDEX PI	GRADATION PERCENT RETAINED			ENGINEERING PROPERTIES: TEST, TYPE AND PLATE NUMBER
								GRAVEL	SAND	FINES	
30	SILT; damp, non-plastic, medium gray	SSS									no hydrocarbon odor B-2-3

LOG DESIGNATION: B-1

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

JOB: No. 9512045
FIGURE: 3

Depth, (Ft)	Num. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
					SC	Clayey Sand: dark grey; moist; fine to medium grained.	
5	2	27		7		Color changed to dark brown; hydrocarbon odor.	
10	2	66		4.1	CL	Sandy Clay: tan and light brown; moist; slight hydrocarbon odor.	
15	2	82/ 11"		0		No hydrocarbon odor.	
20	2	28		0	SM	Silty Sand: tan; moist; fine grained; no hydrocarbon odor.	
25	2	14		2	CL	Silty Clay: tan and olive; moderately cemented; moist.	

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

LOG DESIGNATION: B-1

JOB: No. 9512045
FIGURE: 3

Depth, (Ft)	Num. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
25					CL	Silty Clay: tan and olive; moderately cemented; moist.	
						Red brown; trace of sand; cemented; no hydrocarbon odor.	
30	2	57		0			
					SM	Silty Sand: olive and tan; moist; fine grained; cemented.	
35	2	78		0			
40	2	46		0	CL	Silty Clay: olive and gray; moist; hard; no hydrocarbon odor.	
45	2	52		0	SP	Sand; gray; fine to medium grained; moist; no hydrocarbon odor	
					SM	Silty Sand: light gray; fine grained; moist; no hydrocarbon odor.	
50	2	34		0			

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

LOG DESIGNATION: B-2

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

JOB: No. 9512045
FIGURE: 4

Depth, (Ft)	Nom. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
					SC	Clayey Sand: dark grey; moist; fine to medium grained.	
5	2	9		0		Color changed to dark brown; no hydrocarbon odor.	
					CL	Sandy Clay: tan and light brown; moist; slight hydrocarbon	
10	2	23		0		Cemented	
15	2	78/ 11"		0			
20	2	77/ 11"		0			
					SM	Silty Sand: olive and gray; moist; fine grained;	
25	2	24		0		no hydrocarbon odor	

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

LOG DESIGNATION : B-2

JOB: No. 9512045
FIGURE: 4

Depth, (Ft)	Num. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
25	2	24			SM	Silty Sand: olive and gray; moist; fine grained; no hydrocarbon odor	
30	2	19		0			
35	2	50/ 6"		0		Trace of clay; cemented.	
40	2	51		0	CL	Silty Clay: olive and gray; moist; hard; no hydrocarbon odor.	
45	2	21		0	SM	Silty Sand; gray; fine grained; moist; no hydrocarbon odor.	
50	2	15		0			

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

LOG DESIGNATION : B-3

JOB: No. 9512045
FIGURE: 5

Depth, (Ft)	Nom. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
5	2	18		0	SC	Clayey Sand: olive and tan; moist; no hydrocarbon odor.	
10	2	24		0	CL	Sandy Clay: brown; moist; no hydrocarbon odor.	
15	2	70/ 11"		0		Cemented.	
20	2	24		0	SM	Silty Sand: tan and light brown; moist; no hydrocarbon odor.	
25	2	46		2	CL	Silty Clay: olive and brown; stiff; moist; no hydrocarbon odor.	

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

LOG DESIGNATION : B-3

JOB: No. 9512045
FIGURE: 5

Depth, (Ft)	Nom. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM.	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
25					CL	Silty Clay: olive and brown; stiff; moist; no hydrocarbon odor.	
30	2	50/ 6"		0	SC	Clayey Sand: Olive; moist; cemented; no hydrocarbon odor.	
35	2	32		0			
40	2	46		0	CL	Silty Clay: olive and gray; moist; hard; no hydrocarbon odor.	
45	2	54		0	SP	Sand; gray; fine to medium grained; moist; no hydrocarbon odor	
50	2	21		0	SM	Silty Sand: light gray; fine grained; moist; no hydrocarbon odor.	

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

LOG DESIGNATION : B-4

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

JOB: No. 9512045
FIGURE: 6

Depth, (Ft)	Num. Dia. (In)	Blows Per Foot	Moisture %	OVM, PPM	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
5						Backfill Material	
10							
15				208	CL	Silty Clay: olive; moist; stiff; hydrocarbon odor.	
20	2	27		0			
25	2	20		0			

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

LOG DESIGNATION : B-4

DATE: October 20, 1995
LOGGED BY: ASR
ELEVATION:
WATER LEVEL: Groundwater was not encountered at the time of drilling
EQUIPMENT: CME-75

JOB: No. 9512045
FIGURE: 6

Depth, (Ft)	Num. Bls. (In)	Blows Per Foot	Moisture %	OVM, PPM	U.S.C.	SOIL OR ROCK DESCRIPTION	NOTES
25					CL	Sandy Clay: red brown; moist; stiff no hydrocarbon odor.	
30	2	27		0			
35	2	66/ 9"		0	SC	Clayey Sand: tan and olive; moist; no hydrocarbon odor.	
40	2	24		0	CL	Silty Clay: olive and tan; moist; stiff; no hydrocarbon odor.	
45	2	76		0			
50	2	34		0	SM	Silty Sand: gray; fine grained; moist; no hydrocarbon odor.	

Lithologic boundaries are approximate and may be gradual. Conditions described may not be representative of those at other locations.

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0			15		CL	SANDY CLAY - stiff, dark reddish-brown, moist
5			25		SW SM	SAND with clay stringers and silt - brown, moist hard drilling 7'- 8½'
10			22		SP	SAND - firm, coarse, poorly graded, brown, wet
15			48		CL	SANDY CLAY - very stiff, plastic, olive grey, moist
20			25			less sand, softer
					SC	SANDY CLAY - dense, reddish-brown

Total depth: 21.5'
Monitoring Well Data:

blank:	0 - 10
screen:	10 - 20
concrete:	0 - 3
bentonite:	3 - 4
sand pack:	4 - 20

Date drilled: 2/3/84

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LOG OF BORING NO. B

PLATE 5

PROJECT NO. F-1617-1

GEOTRACKER ID#:SLT6FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0					OL	
			80			TOP SOIL - organic clay, black, moist
					CL	SILTY CLAY - very hard, brown, moist to dry
5						
			30			SAND - dense, well graded, medium to coarse, brown wet
					SW	
10						
			79			finer sand, some coarse
15						SILTY SAND - dense, fine grained, poorly graded, light grey, very moist
			37		SM	
20						
			26			
						Total depth 21.5' Monitoring Well Data: screen: 10 - 20 concrete: 0 - 3 bentonite: 3 - 4 sand pack: 4 - 20 Date drilled: 2/1/84

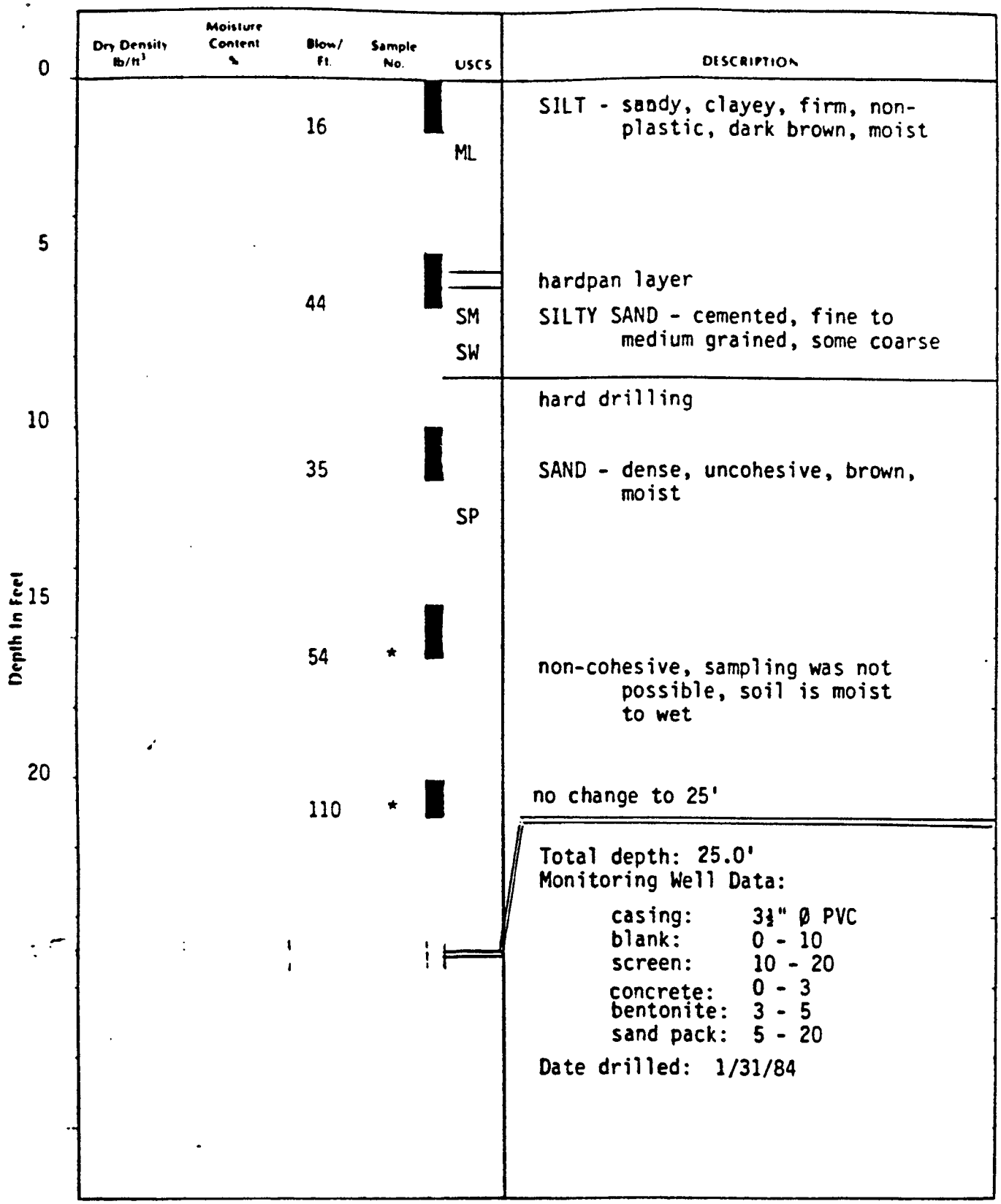
J H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

LOG OF BORING NO. C

PLATE 6

PROJECT NO. F-1617-1

GEOTRACKER ID#:SLT6ER274384



J.H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. D

PLATE 7

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0			9		ML CL	SILT/CLAY - stiff, plastic, reddish-brown, moist
5			9	*	CL	harder drilling SANDY CLAY - soft, plastic, brown, very moist hard drilling
10			48		SC	CLAYEY SAND - dense, brown, moist
15			49		SC CL	SAND & CLAY - fine, some silt, dense, brown, moist
20			100+		SC SM	SAND - very dense, brown, moist, with silt and clay wet below 20'
						Total depth: 21.5' Monitoring Well Data: casing: 3½" Ø PVC blank: 0 - 10 screen: 10 - 20 concrete: 0 - 3 bentonite: 3 - 5 sand pack: 5 - 20 Date drilled: 2/1/84

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. E

PLATE 8

GEOTRACKER ID#:SLT5FR274381

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft.	Sample No	USCS	DESCRIPTION
0						
1			100			SILTY CLAY - very hard, reddish-brown, dry
2					CL	
3			126			
4						
5					SM	SILTY SAND - loose, brown, dry
6						
7			21			
8						Date drilled: 2/2/84 Total depth: 6.50' NFWE
9						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 1

PLATE 9

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb ft³	Moisture Content %	Blow ft	Sample No	USCS	DESCRIPTION
					OL	top soil - soft, organic, black, wet
1					CL	SANDY SILTY CLAY - hard, slightly plastic, brown, wet
			34			
2						
3						
4			21			
5						
6			27	*	SW	SAND - dense, light brown, saturated
7						Date drilled: 2/1/84 Total depth: 6.5' NFWE
8						
9						
10						

J H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 2

PLATE 10

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No	USCS	DESCRIPTION
0–1					CL	SANDY CLAY - stiff, plastic, reddish-brown, moist
1–2			45	*		
2–3						
3–4			102			
4–5					CL SC	SAND and CLAY - hard, dark brown, slightly moist
5–6			97			
6–7						Date drilled: 2/2/84 Total depth: 6.0' NFWE
7–8						
8–9						
9–10						

J.H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

LOG OF BORING NO. 3

PLATE 11

PROJECT NO. F-1617-1

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft	Sample No.	USCS	DESCRIPTION
0–2			19		CL	SANDY CLAY - stiff, slightly plastic, brown, moist
3–4			86		CL SC	SAND and CLAY - very hard, reddish-brown, dry
5			55/6"		SC	SAND - some clay, firm
6–10						Date drilled: 2/3/84 Total depth: 5.0' NFWE

J H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 4

PLATE 12

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No	USCS	DESCRIPTION
0–2			62	5-1	CL	SANDY CLAY - silty clay, very hard, reddish-brown, moist
3			90/8"	*	CL	SANDY CLAY - sand fine to medium grained, hard
4–5			50/3"	*		very hard
6–10						Date drilled: 2/3/84 Total depth: 5.0' NFWE

J.H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 5

PLATE 13

GEOTRACKER ID#:SLT5FR274381

Dry Density lb. ft³	Moisture Content %	Blow/ Ft	Sample No	USCS	DESCRIPTION
				SC	CLAYEY SAND - soft, dark greyish-brown, wet
		8			
		6			
				SP	SAND - coarse, clean
				SC	CLAYEY SAND - hard, red, moist
		96/11"			
					Date drilled: 2/3/84 Total depth: 6.0' NFWE

KLEINFELDER & ASSOCIATES
TECHNICAL CONSULTANTS • MATERIALS TESTING

OJECT NO. F-1617-1

LOG OF BORING NO. 6

PLATE 14

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No	USCS	DESCRIPTION
0					FILL	FILL - sand & gravel
1			50/2"		SC CL	HARD PAN at 1.10', cemented sands
2						SANDY CLAY - hard, brown, moist, some dry, cemented sand zones
3			50/6"			
4						
5						clay layers, greyish-brown
6			75			
7						Date drilled: 2/3/84
8						Total depth: 6.5'
9						NFWE
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

LOG OF BORING NO. 7

PLATE 15

PROJECT NO. F-1617-1

GEOTRACKER ID#:SLT5FR274381

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft	Sample No	USCS	DESCRIPTION
0						
1			25	8-1	CL	SILTY CLAY - stiff, non-plastic, brown to grey
2						
3				*		becoming plastic
4			7			
5					SC CL	SAND and CLAY - firm, some gravel brown, moist
6			12	*		
7						Date drilled: 2/3/84 Total depth: 6.50' NFWE
8						
9						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 8

PLATE 16

GEOTRACKER ID#:SLT5PR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft.	Sample No.	USCS	DESCRIPTION
0						Asphalt and fill
1			63/6"		CL	SANDY CLAY - very hard, reddish-brown, moist
2						
3					SC	CLAYEY SAND - hard, brown, moist
4			88			
5				*		very hard drilling
6			17			becoming sandy, fine to coarse, less fines
7						Date drilled: 2/2/84 Total depth: 6.0' NFWE
8						
9						
10						

J H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 9

PLATE 17

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft.	Sample No	USCS	DESCRIPTION
0					FILL	FILL - sand, gravel, clay
1			20		CL	SILTY CLAY - stiff, slightly plastic, greyish-brown, moist
2						
3						SILTY SAND - some clay, dense, brown, moist
4			41		SM	
5			83/9"	*		
6						Date drilled: 2/5/84
7						Total depth: 5'6"
8						NFWE
9						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

LOG OF BORING NO. 10

PLATE 18

PROJECT NO. F-1617-1

GEOTRACKER ID#:SLT6FR274381

Depth in feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft	Sample No.	USCS	DESCRIPTION
0–2			58		CL SC	SANDY CLAY - stiff, slightly plastic, some gravel, reddish-brown, moist
3–4			97	*	SC	CLAYEY SAND - some gravel, hard, brown, dry
5–6			18		SP	SAND - fine to medium grained, loose, poorly graded, light brown, dry
7–10						Date drilled: 2/2/84 Total depth: 6.5' NFWE

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 11

PLATE 19

GEOTRACKER ID#:SLT5FR274381

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft	Sample No.	USCS	DESCRIPTION
0					FILL	FILL - sand & gravel
1			65		CL SC	SANDY CLAY - very hard, non plastic, reddish-brown, slightly moist
2						
3			50/3"	*		
4						
5					SM	SILTY SAND - loose, brown, dry
6						
7			11			
8						Date drilled: 2/2/84 Total depth: 6.5' NFWE
9						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 12

PLATE 20

GEOTRACKER ID#:SLT5FR274381

Depth in feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0						
1			34		CL	SANDY CLAY - hard, slightly plastic, reddish-brown, moist
2						
3						
4						Refusal: possible abandoned foundation
5						Note: Moved ouver 5' and re-drilled to 2.5' and again met refusal.
6						Date drilled: 2/2/84
7						
8						
9						
10						

J H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 13

PLATE 21

GEOTRACKER ID#:SLT5FR274381

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft	Sample No.	USCS	DESCRIPTION
0						
1			37		FILL	sand & gravel
2						
3						
4			37		CL SC	SANDY CLAY - stiff, slightly plastic, reddish-brown, moist
5						
6			15			
7						Date drilled: 2/2/84 Total depth: 6.0' NFWE
8						
9						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 14

PLATE 22

GEOTRACKER ID#: SLT3PR274361

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No	USCS	DESCRIPTION
0–1					FILL	FILL - sand & gravel railroad balast
1–2			34		CL	SANDY CLAY - stiff, slightly plastic, reddish-brown, moist
2–3			78/10"	*	SC	CLAYEY SAND - dense, reddish-brown, moist
3–4						
4–5			57/6"			
5–6						Date drilled: 2/2/84 Total depth: 5.0' NFWE
6–7						
7–8						
8–9						
9–10						
10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 15

PLATE 23

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0–2			32		CL SC	SANDY CLAY - stiff, slightly plastic, dark reddish-brown, moist
3–5			50/3"		SC	sand percentage increases
6–7			46		CL	SILTY CLAY - stiff, brown, dry
8–10						Date drilled: 3/2/84 Total depth: 6.5' NFWE

J H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 16

PLATE 24

GEOTRACKER ID#:SLT5FR274381

Depth In Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No	USCS	DESCRIPTION
0						2" asphalt
1					FILL	
2			53		CL SC	CLAY & SAND - gravel, stiff, brown, moist
3						
4			69/11"			more sand
5						
6			39		CL	CLAY - hard, non plastic, light grey, dry
7						Date drilled: 2/2/84
8						Total depth: 6.0'
9						NFWE
10						

J.H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 17

PLATE 25

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ Ft.	Sample No.	USCS	DESCRIPTION
0					FILL	
			45	■	CL SC	SANDY CLAY - stiff, plastic note: (wood chips in sample)
2						
4						
6			31	■	SW SM	SAND - dense, fine to medium grained, brown, dry
8						
10						
			29	■	SW SP	coarser grained, less fines, moist
12						
14						
16				■	ML	SANDY SILT - some clay, plastic, grey, wet
			45			
18					SC	17-18' is hard 18-19½' is soft cemented sands at 19½', very hard
20			53/6"	■		

Date drilled: 3/2/84
Total depth: 20.5'
Monitoring Well Data:

casing:	3" Ø PVC
blank:	0 - 0
screen:	10 - 20
concrete:	0 - 4
bentonite:	4 - 5
sand pack:	5 - 20.5'

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 18

PLATE 26

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft	Sample No	USCS	DESCRIPTION
0–2			24		FILL	CLAY - sand, wood chips, very stiff, brown, moist
3–4			20		SC	CLAYEY SAND - dense, brown to olive brown, moist to wet
6			20			
7–10						Date drilled: 3/2/84 Total depth: 6.5' NFWE

J.H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 19

PLATE 27

GEOTRACKER ID#:SLT5FR274381

Depth in Feet	Dry Density lb/ft³	Moisture Content %	Blow/ ft.	Sample No	USCS	DESCRIPTION
0–1						
1–2			10		CL	SANDY CLAY - moderately stiff to soft, dark brown, moist
2–3						
3–4						
4–5			4	*		
5–6					CS	SILTY CLAY - hard, slightly plastic
6–7			62			
7–8						Date drilled: 2/1/84 Total depth: 6.5' NFWE
8–9						
9–10						

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. F-1617-1

LOG OF BORING NO. 20

PLATE 28

GEOTRACKER ID#: SLT5FR274381

LOGS OF TEST BORINGS

Projects Shown on Geologic Map & Site Plan

PLATE 2-9

Note: Geotracker ID Number is shown at bottom of each Geotracker boring log.

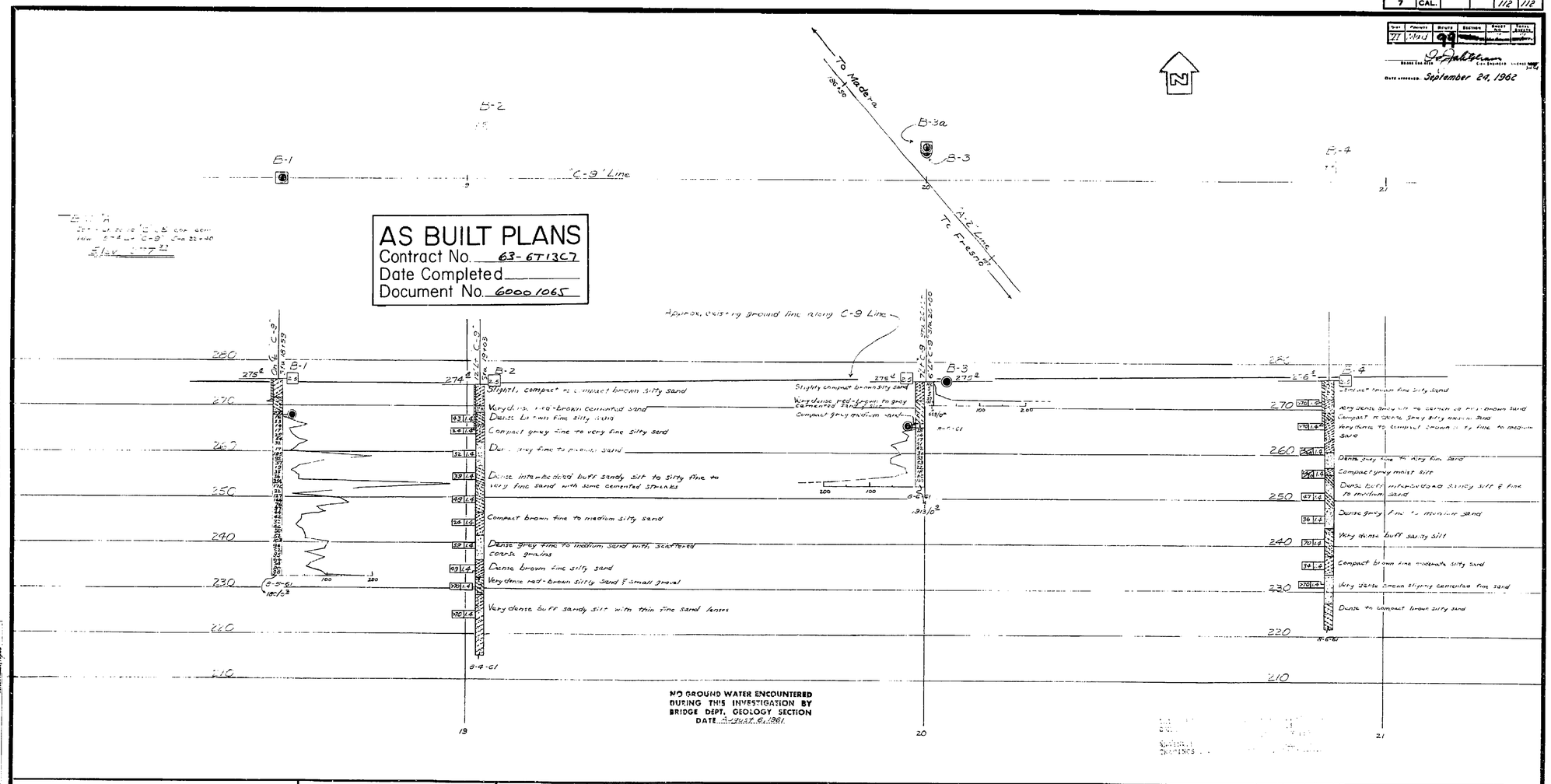
FED. ROAD DIV NO.	STATE	PROJ No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
7	CAL.			112	112

YEAR	COUNTY	ROUTE	SECTION	SHEET No.	TOTAL SHEETS
77	MAD	99			

Registered Civil Engineer — License No. 5268

DATE APPROVED: September 24, 1962

BRIDGE DEPARTMENT



CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

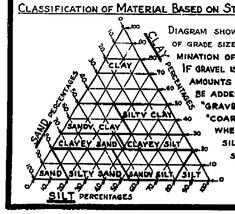


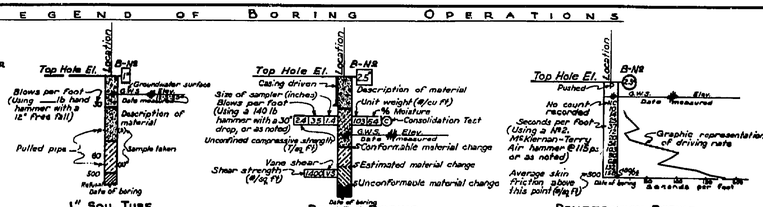
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PENETROMETER
- 2½" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT



NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

AVENUE 9 OVERCROSSING

LOG OF TEST BORINGS

SCALE 1"=10'	BRIDGE 41-53	FILE	DRAWING C-41-3-1

PR 4163-4

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE 1-17-72 SIGNATURE [illegible] TITLE [illegible]

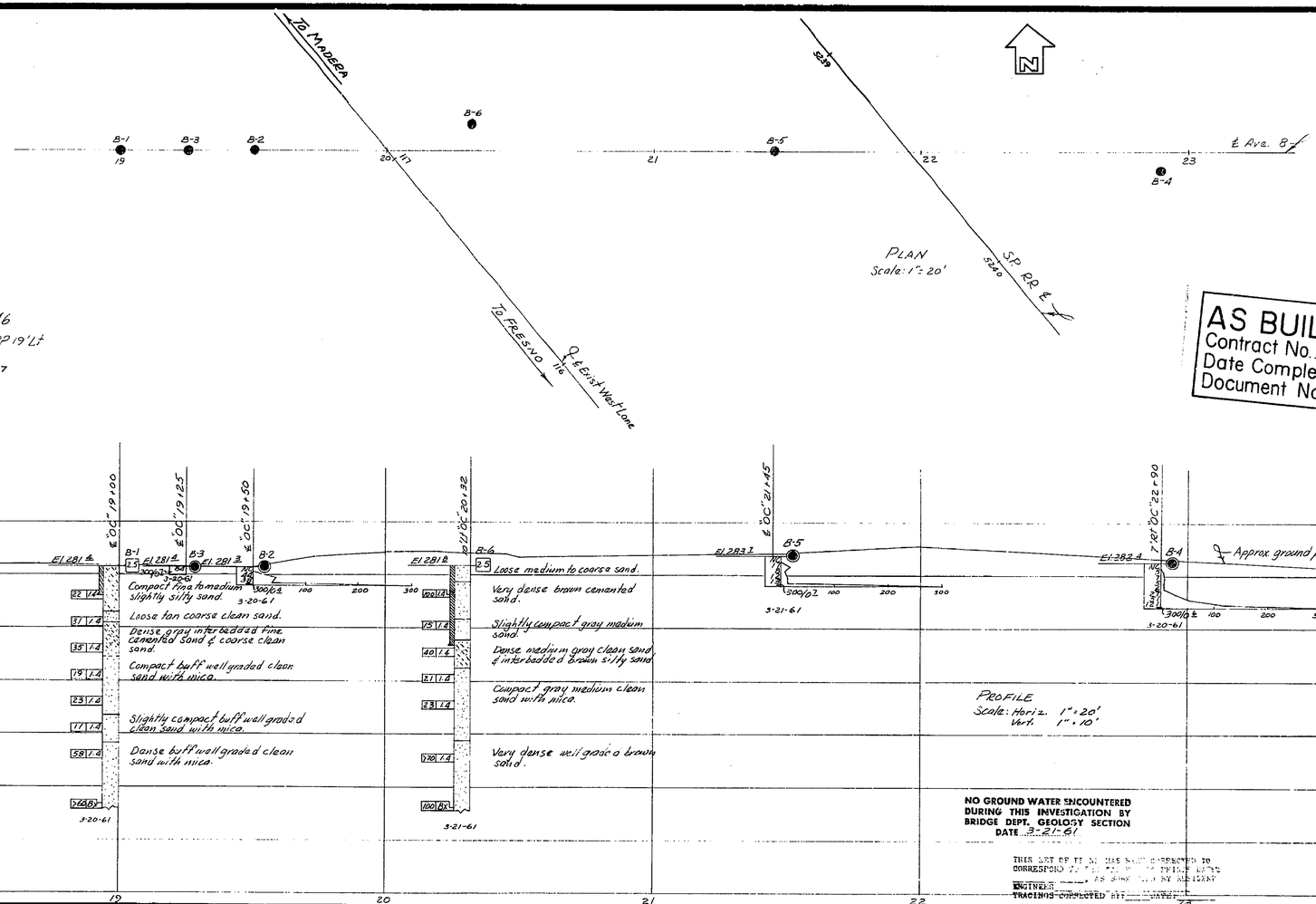
MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF PUBLIC WORKS – MICROFILM
SCALE 1"= 50' SCALE 1"= 50' SCALE 1"= 20' SCALE 1"=20'
ClibPDF - www.fastio.com
BR41-0063

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	CAL.			98	118

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
VI	MAD			7	

Date approved: September 24, 1962

BRIDGE DEPARTMENT



BM #1.46
RR Spike in PP 19'Lt
"OC" 14+59
Elev. 282.387

AS BUILT PLANS
Contract No. 63-6T1307
Date Completed
Document No. 6000 1065

FIELD STUDY		3-61
DRAWN		4-61
CHECKED		4-61

Approved Recommended by: [illegible]
Bridge Engineer

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

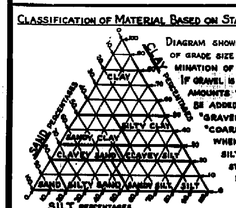


DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

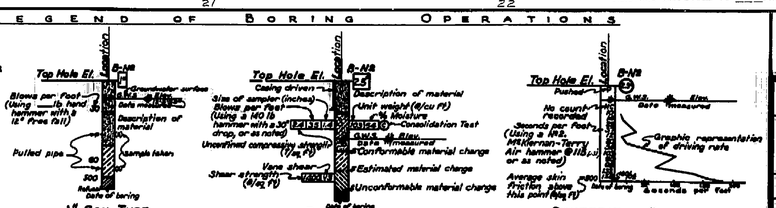
IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2½" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT



NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

AVENUE 8 O.C.

LOG OF TEST BORINGS

SCALE As Noted	BRIDGE 41-60	FILE	DRAWING C-4160-7

PR-4160-4

98

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL OF THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE 1-17-72 SIGNATURE [illegible] TITLE SR ENGR

SCALE 1" = 50' MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM SCALE 1" = 50' SCALE 1" = 20' MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM SCALE 1" = 20'

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BR41-0060

DIST.	COUNTY	ROUTE	POST MILES — TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre, Mad	99	31.1/31.6, 0.0/R0.4	31	31

Marvin J. McCasland 14
ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED August 26, 1985

TO FRESNO

B-5 B-2 B-3 B-1 B-6 B-4 B-7

466+00 467+00 468+00 469+00 470+00 1+00 2+00 3+00 4+00 5+00

℄ ROUTE 99

STA. 470+22.80 BACK

EXISTING BRIDGE NO. 41-08L

EXISTING BRIDGE NO. 41-08R

SAN JOAQUIN RIVER

FRESNO CO. / MADERA CO.

TO MADERA

BENCH MARK

BM # F 86, ELEVATION 271.05 FT.

AS BUILT

CORRECTIONS BY R.A. Yeager

CONTRACT NO. 06-225404

DATE 11-24-87

NO AS BUILT CHANGES

APPROXIMATE ORIGINAL GROUND LINE ALONG ℄ RTE. 99

PLAN 1"=40'

12' LT. STA. 466+39 ℄ RTE. 99

10' LT. STA. 467+00 ℄ RTE. 99

6' LT. STA. 467+42 ℄ RTE. 99

10' LT. STA. 468+28 ℄ RTE. 99

6' LT. STA. 469+03 ℄ RTE. 99

5' LT. STA. 469+85 ℄ RTE. 99

67' RT. STA. 471+22 ℄ RTE. 99

B-5
- 0 to 2': Very dense SAND and GRAVEL.
- 2 to 4': Slightly compact, brown SANDY GRAVEL.
- 4 to 6': Compact, brown, dry medium SAND and rounded GRAVEL.
- 6 to 8': Slightly compact, brown fine SAND, damp.
- 8 to 10': Loose, brown, interbedded fine SAND, wet and micaceous SILT, damp.
- 10 to 12': Slightly compact, brown, fine micaceous SAND.
- 12 to 14': Hard, brown SILTY CLAY.
- 14 to 16': Dense, light-gray saturated very fine SAND with interbeds of SILT, damp.
- 16 to 18': Dense, light gray, fine, micaceous SILTY SAND with friable SILT seams.
- 18 to 20': Compact, light-gray SANDY SILT to compact fine, medium dense SAND.
- 20 to 22': Dense, gray, medium SAND, wet.
- 22 to 24': Slightly compact gray SILT, wet.
- 24 to 26': Very dense, light-gray partially cemented to friable SILT.
- 26 to 28': Very dense, light-gray SILT, damp to wet.
- 28 to 32': Dense, gray, medium to coarse SAND, wet.
- 32 to 34': Dense, gray, medium to coarse SAND, wet, with PEBBLES.
- 34 to 36': Very dense, light-gray SILT, to SANDY SILT, wet.
- 36 to 41': Dense, gray to pink, medium to coarse SAND, wet.

8-8-84 — 300/0.2' — 8-2-84 — 8-7-84

B-2
- 0 to 2': Very dense SAND and GRAVEL.
- 2 to 4': Slightly compact, brown SANDY GRAVEL.
- 4 to 6': Compact, brown, dry medium SAND and rounded GRAVEL.
- 6 to 8': Slightly compact, brown fine SAND, damp.
- 8 to 10': Loose, brown, interbedded fine SAND, wet and micaceous SILT, damp.
- 10 to 12': Slightly compact, brown, fine micaceous SAND.
- 12 to 14': Hard, brown SILTY CLAY.
- 14 to 16': Dense, light-gray saturated very fine SAND with interbeds of SILT, damp.
- 16 to 18': Dense, light gray, fine, micaceous SILTY SAND with friable SILT seams.
- 18 to 20': Compact, light-gray SANDY SILT to compact fine, medium dense SAND.
- 20 to 22': Dense, gray, medium SAND, wet.
- 22 to 24': Slightly compact gray SILT, wet.
- 24 to 26': Very dense, light-gray partially cemented to friable SILT.
- 26 to 28': Very dense, light-gray SILT, damp to wet.
- 28 to 32': Dense, gray, medium to coarse SAND, wet.
- 32 to 34': Dense, gray, medium to coarse SAND, wet, with PEBBLES.
- 34 to 36': Very dense, light-gray SILT, to SANDY SILT, wet.
- 36 to 41': Dense, gray to pink, medium to coarse SAND, wet.

300/0.2' — 8-2-84 — 8-7-84

B-3
- 0 to 2': Very dense, brown, dry SILTY fine SAND some GRAVEL.
- 2 to 4': Slightly compact, gray coarse SAND with GRAVEL.
- 4 to 6': Slightly compact, gray to red-brown, thinly laminated, fine medium, dry SAND. GWS EL. 819.4 8-3-84
- 6 to 8': Compact, grey, wet, medium SAND and GRAVEL with some small COBBLES.
- 8 to 12': Dense, brown, SILTY SAND and large GRAVEL, wet.
- 12 to 14': Very dense GRAVEL and SAND.
- 14 to 16': Dense, light-brown, interbedded damp SILT and wet fine SAND and SILT.
- 16 to 18': Dense, light-brown very fine SAND, wet.
- 18 to 20': Dense, gray, dry friable SILT grading to SANDY SILT.
- 20 to 22': Dense, brown SILTY SAND, moist.
- 22 to 24': Dense gray, medium coarse SAND, wet.
- 24 to 26': Dense, gray, medium coarse SAND, wet.
- 26 to 28': Light-gray CLAY
- 28 to 30': Very dense, light-brown fine SAND and SILT.
- 30 to 32': Very dense, brown SANDY SILT, wet.

7-31-84

B-1
- 0 to 3': Very dense, brown, dry SILTY fine SAND some GRAVEL.
- 3 to 6': Slightly compact, gray coarse SAND with GRAVEL.
- 6 to 8': Slightly compact, gray to red-brown, thinly laminated, fine medium, dry SAND. GWS EL. 819.4 8-3-84
- 8 to 10': Compact, grey, wet, medium SAND and GRAVEL with some small COBBLES.
- 10 to 12': Dense, brown, SILTY SAND and large GRAVEL, wet.
- 12 to 14': Very dense GRAVEL and SAND.
- 14 to 16': Dense, light-brown, interbedded damp SILT and wet fine SAND and SILT.
- 16 to 18': Dense, light-brown very fine SAND, wet.
- 18 to 20': Dense, gray, dry friable SILT grading to SANDY SILT.
- 20 to 22': Dense, brown SILTY SAND, moist.
- 22 to 24': Dense gray, medium coarse SAND, wet.
- 24 to 26': Dense, gray, medium coarse SAND, wet.
- 26 to 28': Light-gray CLAY
- 28 to 30': Very dense, light-brown fine SAND and SILT.
- 30 to 32': Very dense, brown SANDY SILT, wet.

8-8-84

B-6
- 0 to 3': Slightly compact, brown SANDY GRAVEL and small COBBLES.
- 3 to 6': Slightly compact, brown, slightly SILTY medium coarse SAND and coarse GRAVEL.
- 6 to 8': Compact, brown, slightly SILTY medium coarse SAND and coarse GRAVEL.
- 8 to 10': Hard, light-brown CLAY, moist.
- 10 to 14': Dense, light-gray wet SILT interbedded with medium coarse SAND, wet.
- 14 to 16': Dense, gray medium coarse SAND, wet.
- 16 to 18': Dense, light-brown medium coarse SAND, wet.
- 18 to 22': Very dense, light-brown, very fine SAND SILT interbedded with damp SILT.
- 22 to 24': Very dense, light-brown, damp to wet very fine SAND and SILT interbeds.
- 24 to 26': Dense, brown interbeds of medium wet SAND and damp SILT.
- 26 to 28': Very dense, SILT, damp.
- 28 to 30': Very dense, brown SILT, damp.
- 30 to 32': Very dense, brown SILT, slightly damp.
- 32 to 34': Very dense, light brown, medium coarse SAND.
- 34 to 36': Very dense, light brown, medium SAND, damp.

8-8-84 — 0+00/MAD

B-4
- 0 to 2': Compact, brown fine SAND.
- 2 to 4': Dense, brown, friable SANDY SILT, dry.
- 4 to 6': Slightly compact, light-brown, fine clean SAND, dry.
- 6 to 8': Dense, light-brown, medium fine clean SAND, dry.
- 8 to 12': Very dense, interbedded light-brown medium SAND dry and brown CLAYEY SILT, damp. Dense, brown SILT, damp.
- 12 to 14': Very dense, brown SILT, damp.
- 14 to 16': Hard, brown, SANDY CLAY, damp.
- 16 to 18': Compact, dark brown-pink medium coarse SILTY SAND.
- 18 to 20': Compact, dark brown-pink medium coarse SILTY SAND. Compact, dark brown-pink medium SAND.
- 20 to 22': Dense, brown, coarse SILTY SAND.

300/0.2' — 8-8-84 — 8-10-84

B-7
- 0 to 3': Compact, brown fine SAND.
- 3 to 6': Dense, brown, friable SANDY SILT, dry.
- 6 to 8': Slightly compact, light-brown, fine clean SAND, dry.
- 8 to 12': Dense, light-brown, medium fine clean SAND, dry.
- 12 to 14': Very dense, interbedded light-brown medium SAND dry and brown CLAYEY SILT, damp. Dense, brown SILT, damp.
- 14 to 16': Very dense, brown SILT, damp.
- 16 to 18': Hard, brown, SANDY CLAY, damp.
- 18 to 20': Compact, dark brown-pink medium coarse SILTY SAND.
- 20 to 22': Compact, dark brown-pink medium coarse SILTY SAND. Compact, dark brown-pink medium SAND.
- 22 to 24': Dense, brown, coarse SILTY SAND.

8-10-84

PROFILE

HOR. 1"=40' VERT. 1"=10'

LEGEND OF EARTH MATERIALS

GRAVEL; SAND; SILT; CLAY; SANDY CLAY or CLAYEY SAND; SILTY SAND or SANDY SILT; SILTY CLAY or CLAYEY SILT; PEAT and/or ORGANIC MATTER; FILL MATERIAL; IGNEOUS ROCK; SEDIMENTARY ROCK; METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Granular:	Penetration resistance (Blows/Ft)	Cohesive
Very loose	0-5	Very soft
Loose	5-10	Soft
Slightly compact	10-20	Firm
Compact	20-35	Very stiff
Dense	35-70	Hard
Very dense	70	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

SOIL TUBE — ROTARY BORING (WET) — AUGER BORING (DRY) — 2½" CONE PENETRO METER — SAMPLER BORING (2½") — TEST PIT — JET BORING — CORE BORING — PENETRATION BORING

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Letter	Typical Name	Classification Criteria
Coarse-grained soils: More than half of material is larger than No. 200 sieve size. Gravels: More than half of coarse fraction is larger than No. 4 sieve size. Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate particle sizes
	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing
Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures	Non-plastic fines or fines with low plasticity (ML below)
	GC	Clayey gravels, gravel-sand-clay mixtures	Plastic fines (CL below)
Sands: More than half of coarse fraction is smaller than No. 4 sieve size. Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	Wide range in grain size and substantial amounts of all intermediate particle sizes
	SP	Poorly graded sands, gravelly sands, little or no fines	Predominantly one size or a range of sizes with some intermediate sizes missing
Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures	Non-plastic fines or fines with low plasticity (ML below)
	SC	Clayey sands, sand-clay mixtures	Plastic fines (CL below)
Fine-grained soils: More than half of material is smaller than No. 200 sieve size. Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
	OL	Organic silts and organic silty clays of low plasticity	
Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
	CH	Inorganic clays of high plasticity, fat clays	
	OH	Organic clays of medium to high plasticity, organic silts	
Highly Organic Soils	Pt	Peat and other highly organic soils	

GEOTECHNICAL BRANCH — TRANSPORTATION LABORATORY

DRAWN BY	LEONY L. LOPEZ	9/84
CHECKED BY	R. Hagen	
PROJECT GEOLOGIST	R.F. Hagen	770 CEG NO
PROJECT ENGINEER	A F GOLDSCHMIDT by [illegible]	371 CE NO

CHARGE UNIT	EXPEND. AUTHOR.	SPEC. DESIGN.

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER Brian Jaw 36647 R/64 — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. 41-08

POST MILE 0.0

SAN JOAQUIN RIVER BRIDGE (WIDEN)

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06200
WO 225401

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)

11/24/87

SHEET 19 OF 19

AS BUILT PLANS
Contract No. 06-225404
Date Completed 11-24-87
Document No.

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 6/17/88 SIGNATURE Donald Blackford TITLE SUPERVISOR OF MICROFILM SERVICES

DES 0148

MICROFILM – STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION – MICROFILM

SCALE 1" = 50' SCALE 1" = 20'

BR41-0008

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